

PUERTOS DEL MUNDO Y GEOPOLITICA PORTUARIA

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FACULTAD DE ADMINISTRACIÓN DE EMPRESAS
ESPECIALIZACIÓN EN GERENCIA CON ÉNFASIS EN LOGÍSTICA Y
COMERCIO INTERNACIONAL
BOGOTÁ
PROMOCIÓN XXII
2018

WORLD PORT RANKINGS - 2015

TOTAL CARGO VOLUME					CONTAINER TRAFFIC			
TONS, 000s					TEUs (Twenty-Foot Equivalent Units), 000s			
RANK	PORT	COUNTRY	MEASURE	TONS	RANK	PORT	COUNTRY	TEUs
1	Shanghai	China	Metric Tons	646.514	1	Shanghai	China	36.516
2	Singapore	Singapore	Freight Tons	575.846	2	Singapore	Singapore	30.922
3	Qingdao	China	Metric Tons	476.216	3	Shenzhen	China	24.142
4	Guangzhou	China	Metric Tons	475.481	4	Ningbo	China	20.636
5	Rotterdam	Netherlands	Metric Tons	466.363	5	Hong Kong	China	20.073
6	Port Hedland	Australia	Metric Tons	452.940	6	Busan	South Korea	19.469
7	Ningbo	China	Metric Tons	448.828	7	Qingdao	China	17.323
8	Tianjin	China	Metric Tons	440.430	8	Guangzhou	China	17.097
9	Busan	South Korea	Revenue Tons	347.713	9	Dubai Ports	United Arab Emirates	15.585
10	Dalian	China	Metric Tons	320.658	10	Tianjin	China	13.881
11	Kwangyang	South Korea	Revenue Tons	272.007	11	Rotterdam	Netherlands	12.235
12	Hong Kong	China	Metric Tons	256.488	12	Port Kelang	Malaysia	11.887
13	Qinhuangdao	China	Metric Tons	246.550	13	Kaohsiung	Taiwan	10.264
14	South Louisiana	United States	Metric Tons	235.058	14	Antwerp	Belgium	9.654
15	Port Kelang	Malaysia	Metric Tons	219.786	15	Dalian	China	9.591
16	Houston	United States	Metric Tons	218.575	16	Xiamen	China	9.215
17	Antwerp	Belgium	Metric Tons	208.423	17	Hamburg	Germany	8.821
18	Xiamen	China	Metric Tons	200.500	18	Tanjung Pelepas	Malaysia	8.797
19	Nagoya	Japan	Freight Tons	197.947	19	Los Angeles	United States	8.160
20	Shenzhen	China	Metric Tons	191.037	20	Long Beach	United States	7.192

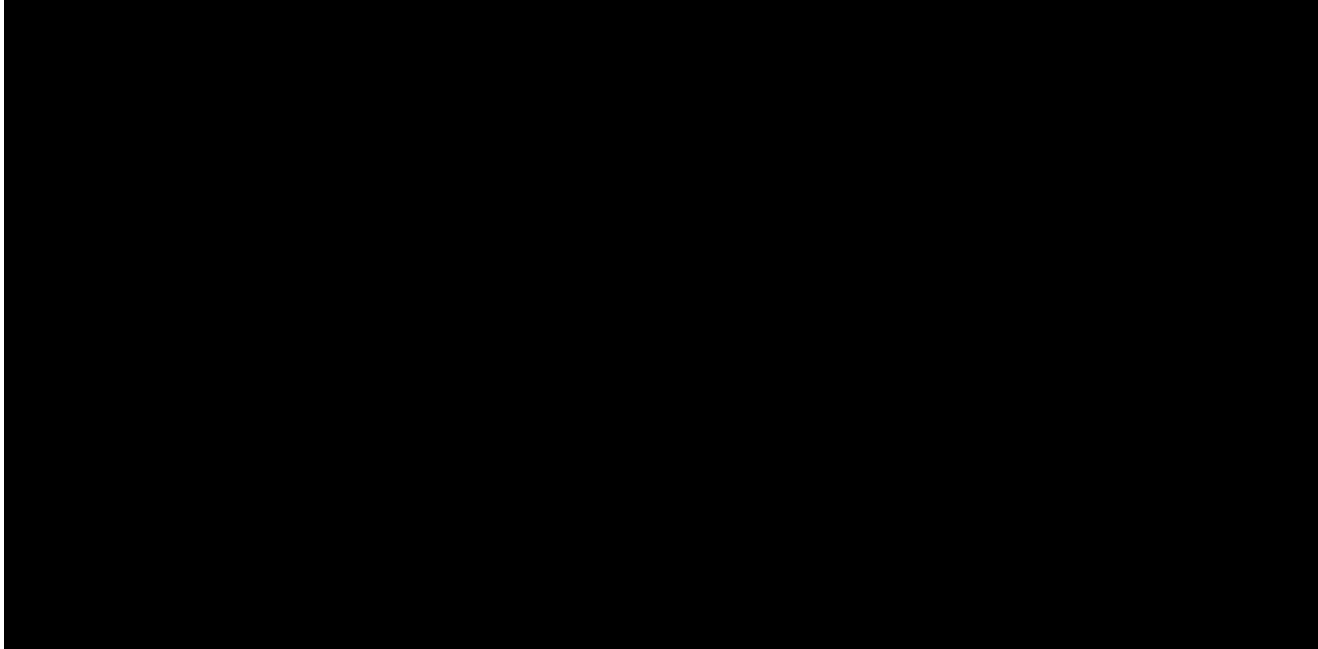
NOTE: The cargo rankings based on tonnage should be interpreted with caution since these measures are not directly comparable and cannot be converted to a single, standardized unit.

Sources: Agencia Nacional de Transportes Aquaviários - ANTAQ(Brasil), Institute of Shipping Economics & Logistics ; U.S. Army Corps of Engineers' Waterborne Commerce Statistics Center, Secretariat of Communications and Transport (México), Waterborne Transport Institute (China); AAPA Surveys; various port internet sites.

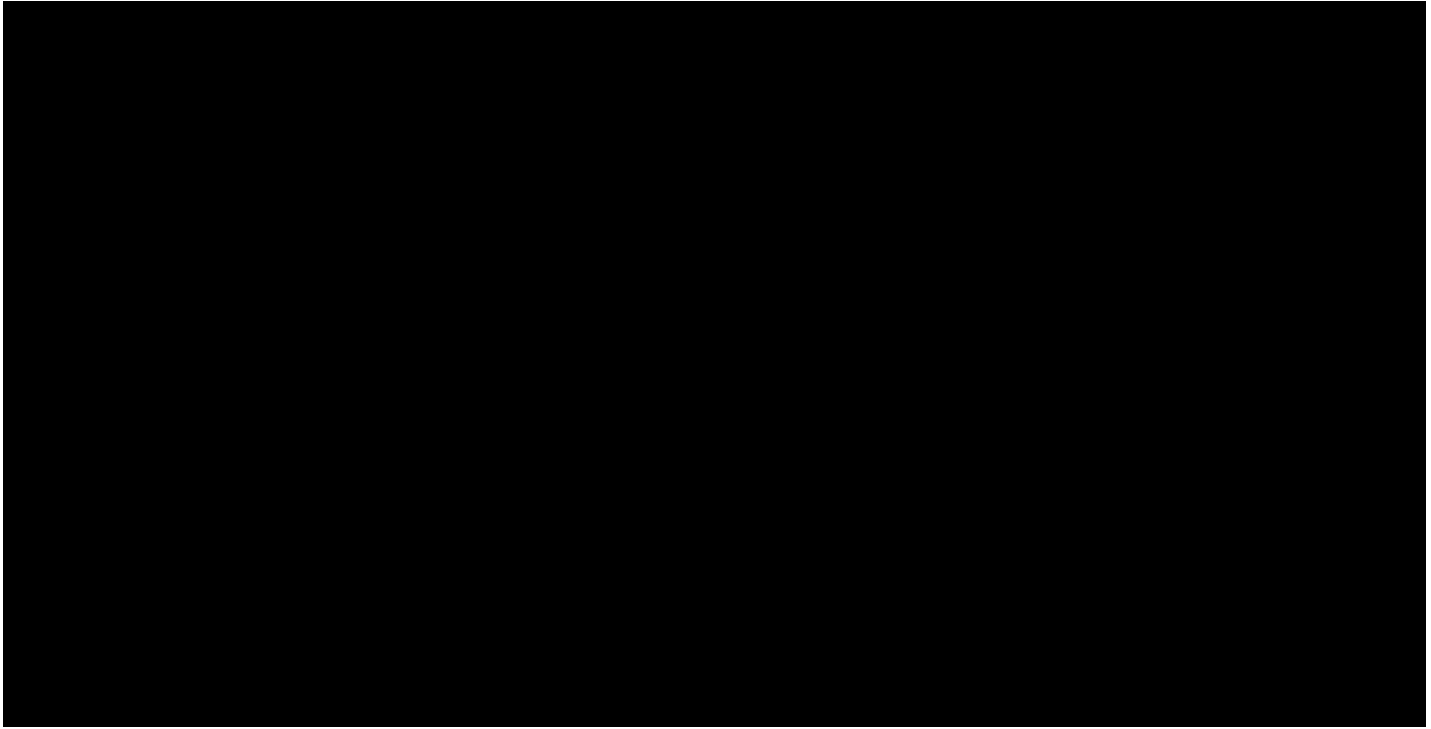
PORT OF SHANGAI (3:37MIN)

<https://www.youtube.com/watch?v=VBV9mffCBHQ>

Top 10 Ranking // Ports in the World (2011-2012) (3:04min)

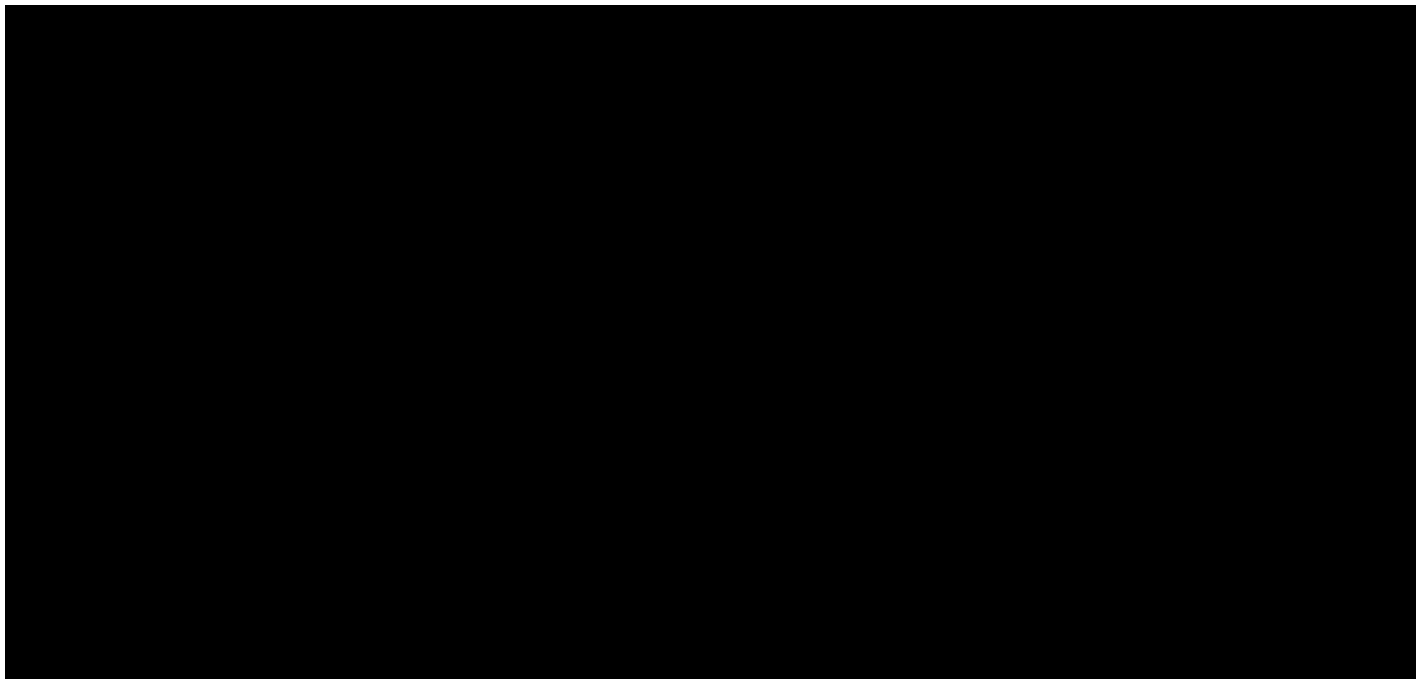


Top 10 Ports Biggest and Important in the World (2015) (2:18min)

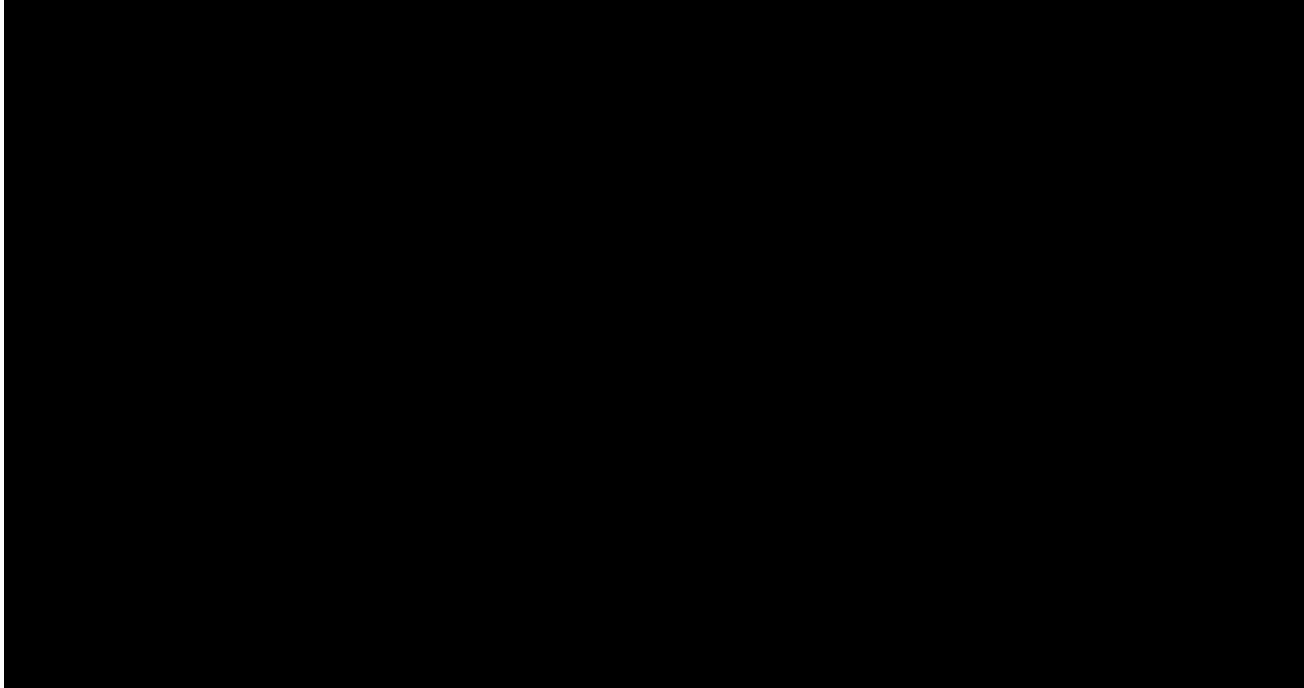


WORLD PORT RANKING // CONTAINER TRAFFIC

2015 (2:15 min)



**WORLD PORT RANKING // TOTAL CARGO
VOLUME 2015 (1:33 min)**



RANKING DE PUERTOS

TOP 10 EN AMÉRICA LATINA Y EL CARIBE EN 2016

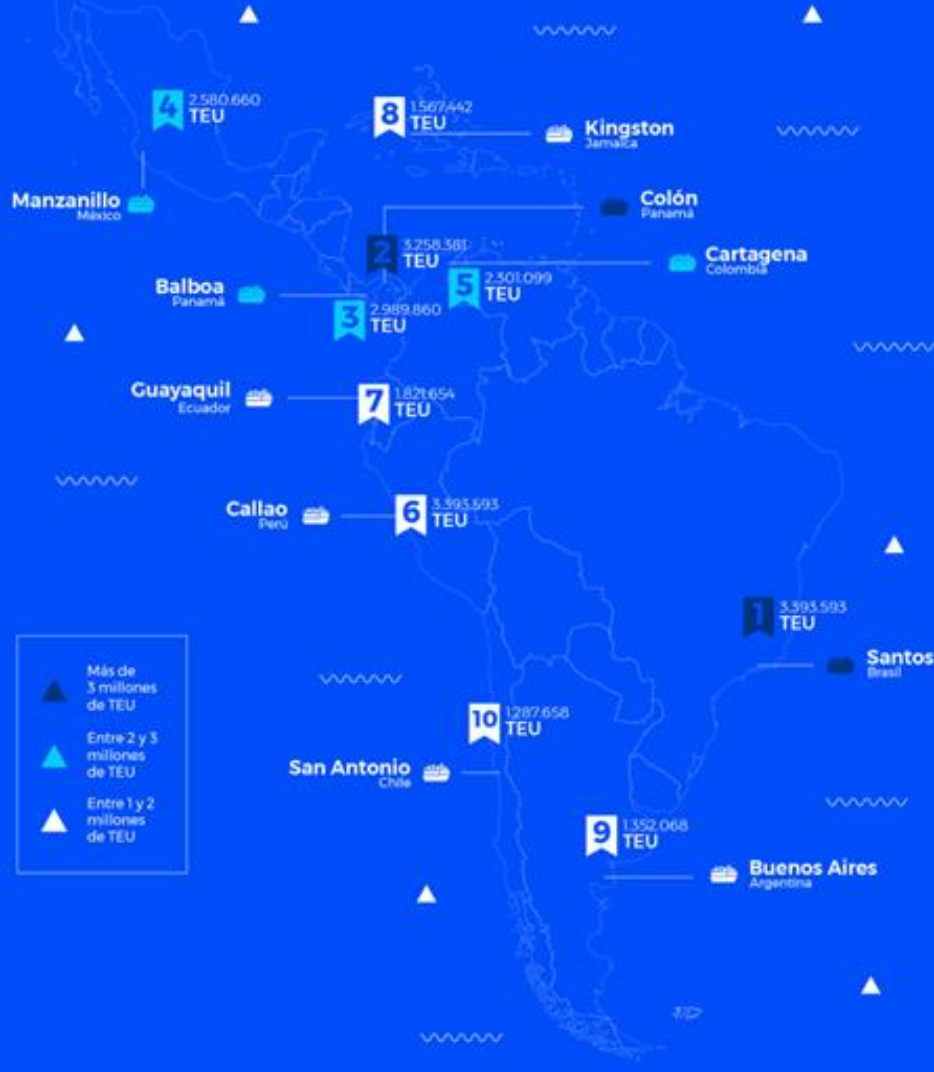


El movimiento de carga en contenedores en puertos de América Latina y el Caribe cayó 0,9% durante el año pasado, según datos recientes difundidos por la Cepal. Este promedio regional mantiene la tendencia negativa de desaceleración que se ha observado en los últimos años y representa la mayor pérdida desde la crisis de 2009.



TEU

(Unidad de medición estándar, equivalente a un contenedor de 20 pies, o 6,25 metros)

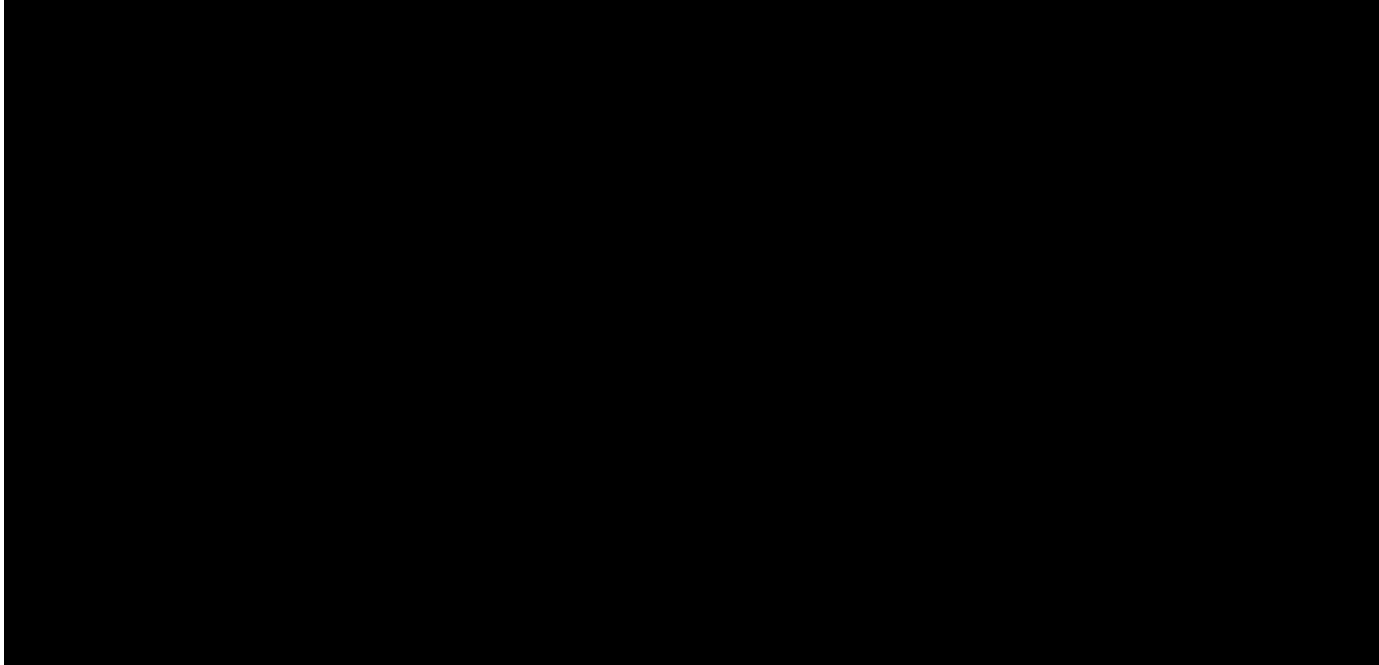


El Deterioro en el 2016 estuvo determinado especialmente por las disminuciones en la actividad de cinco países: Brasil (-4.4%), Panamá (-9.1%), Colombia (-3.6%), Argentina (-6.1%) y Bahamas (-14.3%). El volumen total de actividad en 2016 alcanzó aproximadamente 47,5 millones de TEU.

En ranking confirmó dos tendencias de los últimos años en la región: una agudización general de la desaceleración del comercio exterior en los terminales de contenedores y una alta heterogeneidad de las tasas del crecimiento de esta actividad dentro de la región.

<http://www.dinero.com/economia/multimedia/los-puertos-maritimos-mas-importantes-de-latinoamerica/247159>

AIRPORTS PRINCIPAL (2:35 min)



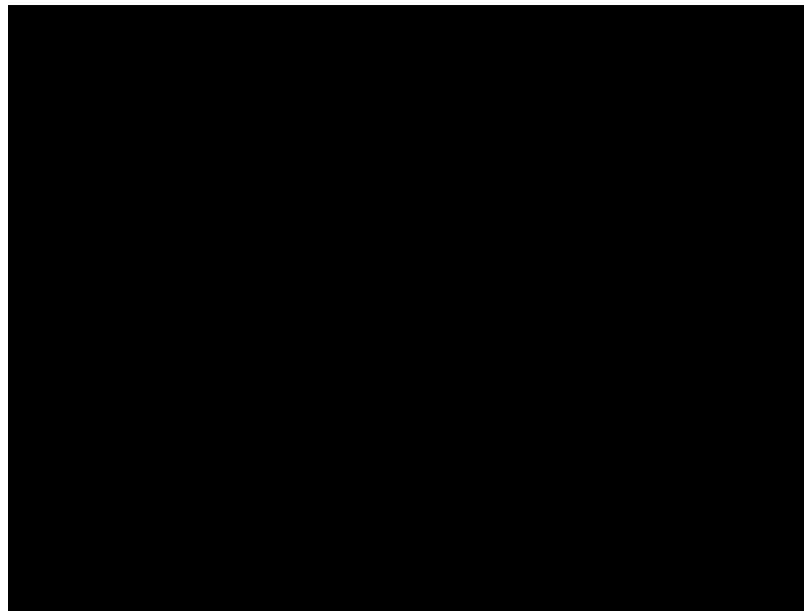
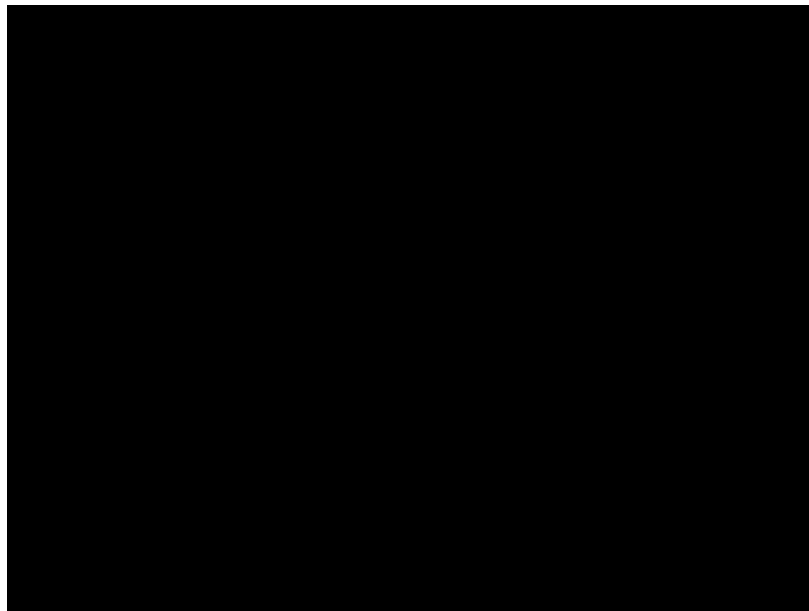
TOP 10 WORLD AIRPORTS BY PASSENGER 2016					
Total passengers: arriving and departing passengers; direct transit passengers counted once					
RANK 2016	RANK 2015	CITY	CODE	TOTAL PASSENGERS	2016/2015% CHANGE
1	1	Atlanta GA, USA	ATL	104.171.935	2,60%
2	2	Beijing, China	PEK	943.934.545	5,00%
3	3	Dubái, United Arab Emirates	DXB	83.654.250	7,20%
4	7	Los Angeles CA, USA	LAX	80.921.527	8%
5	5	Tokyo, Japan	HND	79.699.762	5,50%
6	4	Chicago IL, USA	ORD	77.960.588	1,30%
7	6	London, United Kingdom	LHR	75.715.474	1,00%
8	8	Hong Kong, China	HKG	70.305.857	3,00%
9	13	Shanghai, China	PVG	66.002.414	9,80%
10	9	Paris, Francia	CDG	65.933.145	0,30%

Based on world airport city markets by total air cargo traffic (2015). Several metropolitan areas (e.g., Dubai, Shanghai, Tokyo, etc.) are served by two or more airports.

* ACI data 2016 “**ACI releases preliminary 2016 world airport traffic rankings.**»

TOP "X" WORLD AIRPORTS BY PASSENGER 2015

(3:19min // 2:47 min)

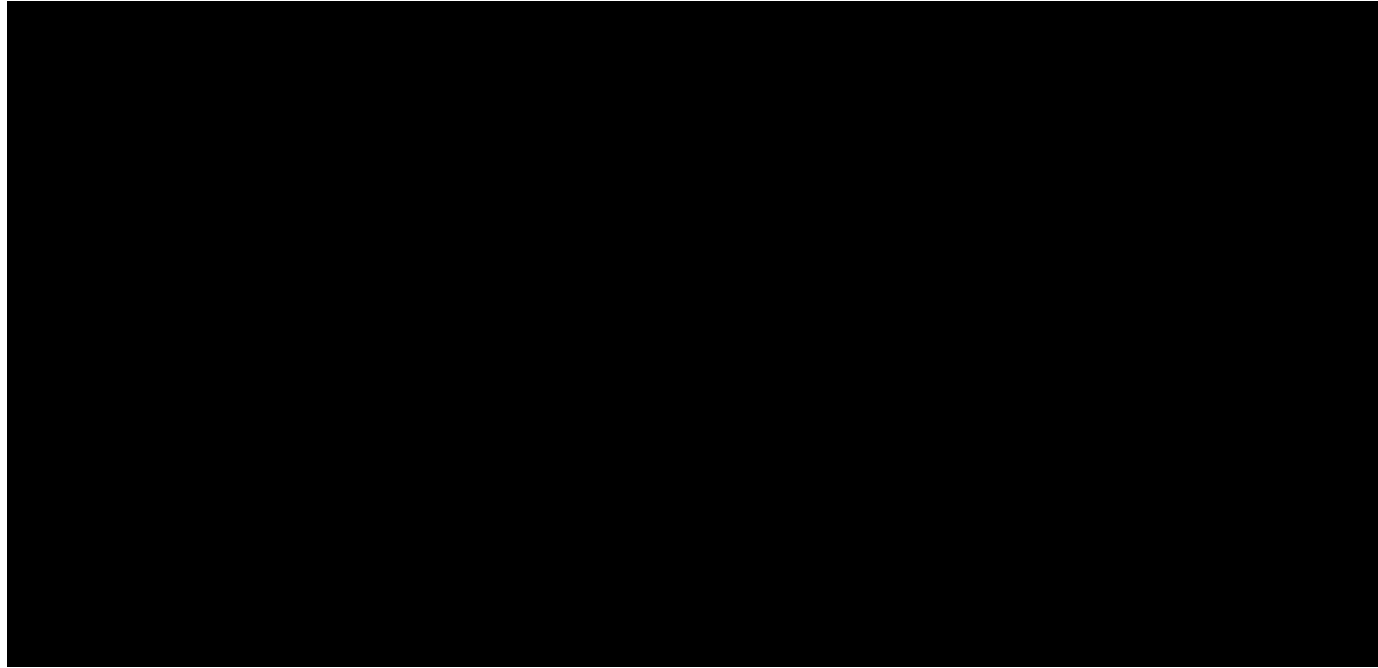


TOP 10 TOTAL CARGO AIRPORTS 2016 Freight and mail in metric tonnes				CARGO (Metric Tonnes)	
RANK 2016	RANK 2015	CITY	CODE	Loaded and unloaded	2016/2015% CHANGE
1	1	Hong Kong, China	HKG	4.615.241	3,50%
2	2	Memphis TN, USA	MEM	4.322.071	0,70%
3	3	Shanghái, China	PVG	3.440.280	5,00%
4	5	Incheon, Korea	ICN	2.714.341	4,6%
5	6	Dubái, United Arab Emirates	DXB	2.592.454	3,50%
6	4	Anchorage AK, USA	ANC	2.542.526	-3,40%
7	7	Louisville KY, USA	SDF	2.437.010	3,70%
8	8	Tokyo, Japan	NRT	2.165.427	2,00%
9	9	Paris, Francia	CDG	2.135.172	2,10%
10	10	Frankfurt, Germany	FRA	2.113.594	1,80%

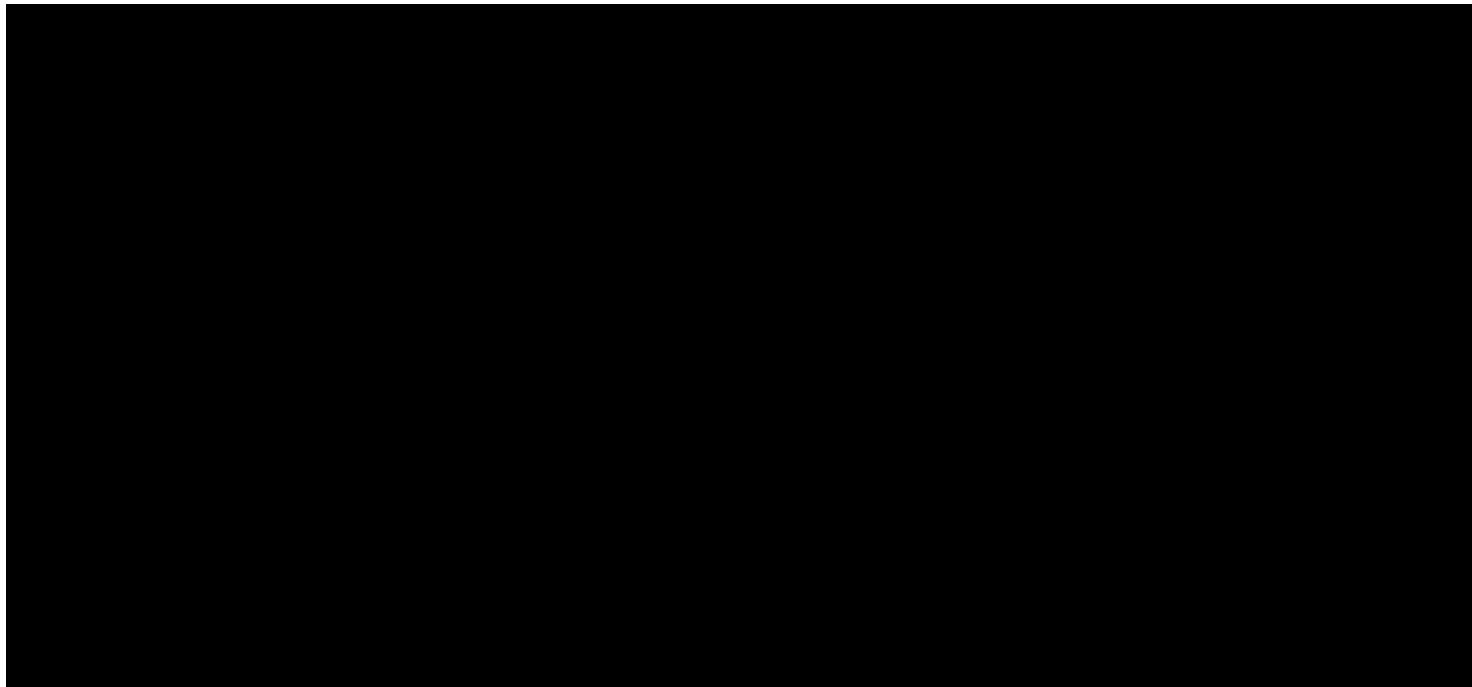
Based on world airport city markets by total air cargo traffic (2015). Several metropolitan areas (e.g., Dubai, Shanghai, Tokyo, etc.) are served by two or more airports.

* ACI data 2016 “**ACI releases preliminary 2016 world airport traffic rankings—Robust gains in passenger traffic at hub airports serving trans-Pacific and East Asian routes - Apr 19, 2017**”.

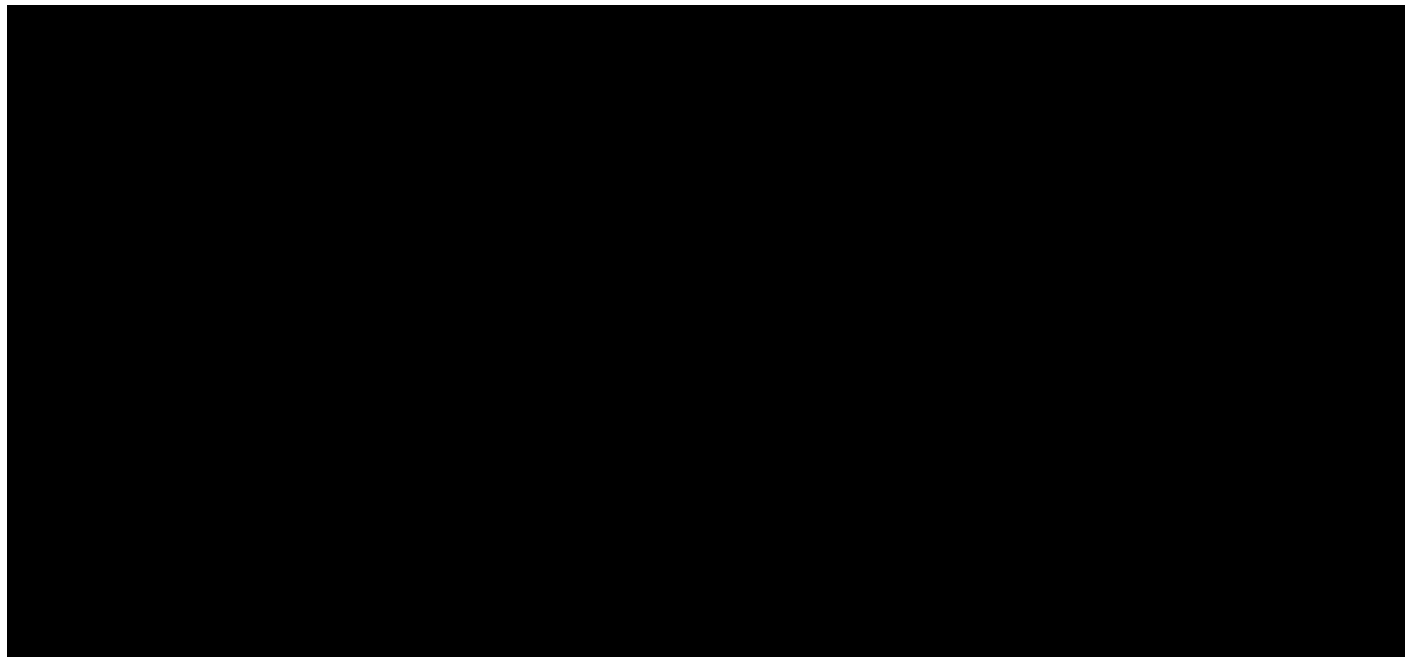
TOP 10 TOTAL CARGO AIRPORTS 2016 (1:52 min)



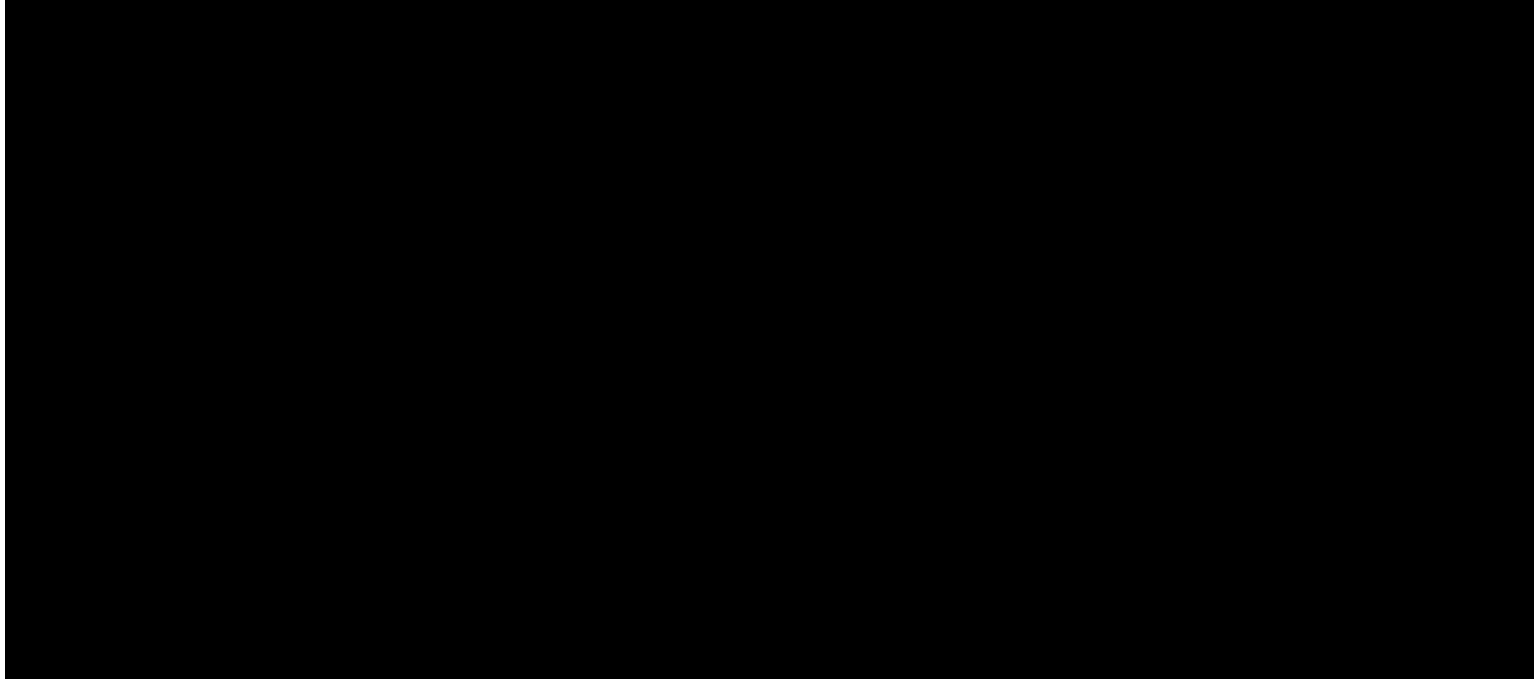
Special Airports (4:36 min)



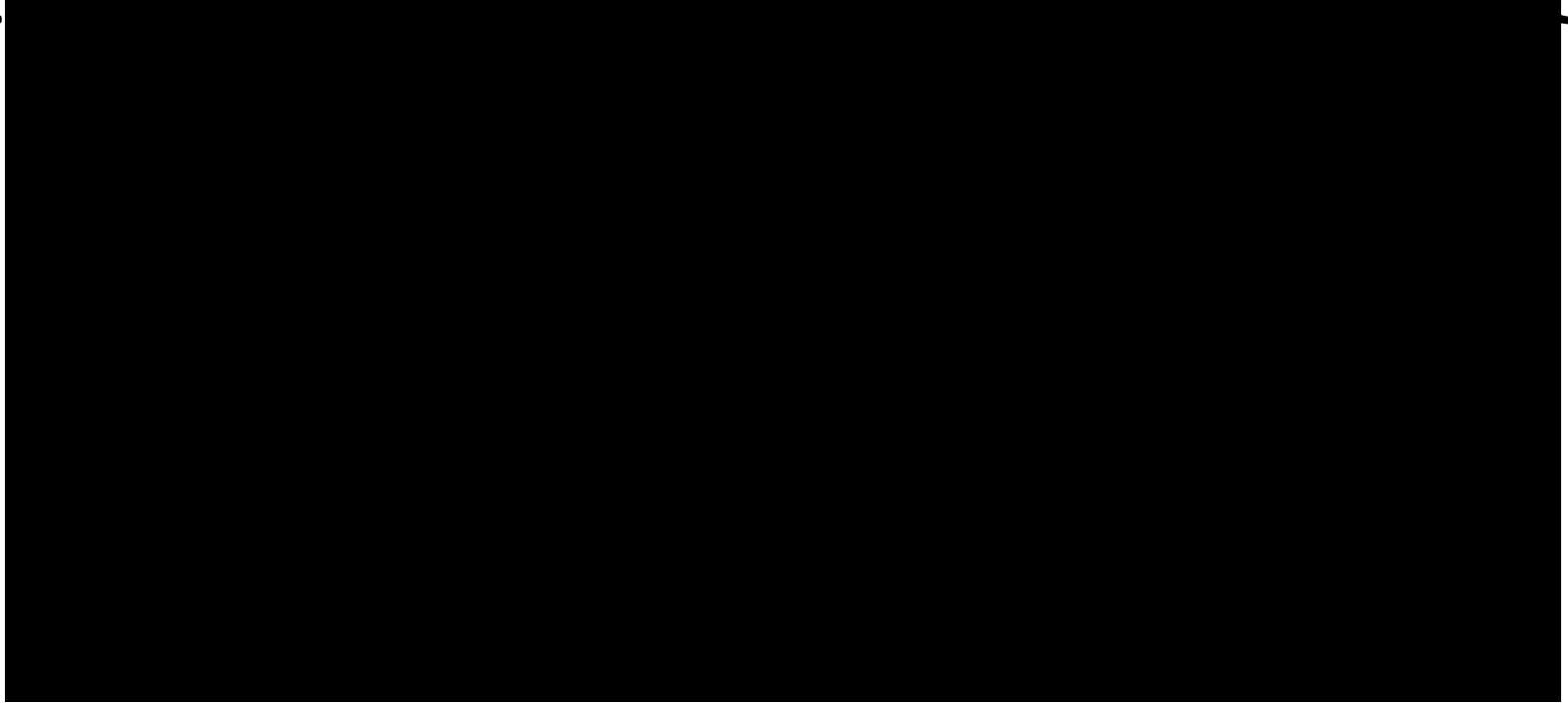
Landing track Airport Sídney (1:59 min)



Airport Bogotá (3:10 min)

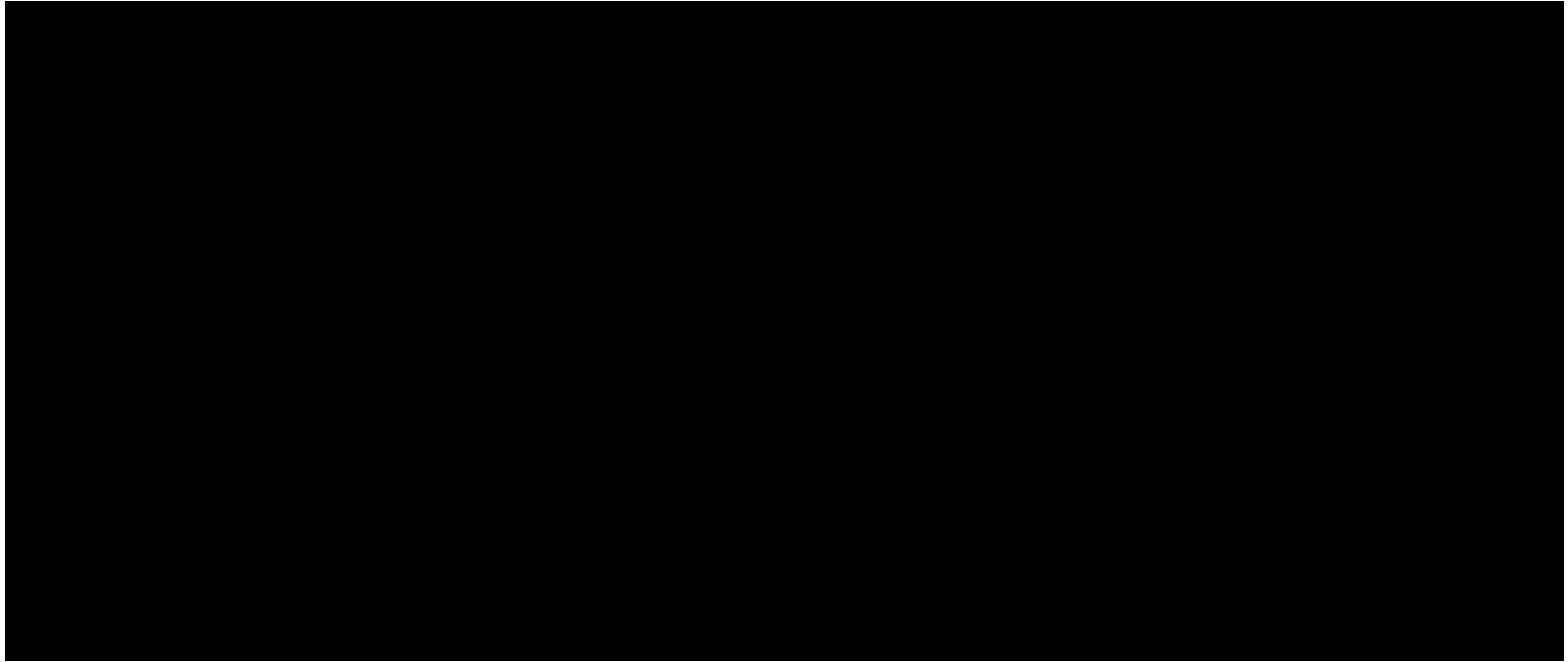


LOADING AND UNLOADING OF CARGO



LOADING AND UNLOADING OF CARGO

(2:29 min)



AIRCRAFT 2015

<https://planestories.iata.org/#sectionTop5>

What are the world's most popular wide body aircraft?

5

AIRBUS

A340

STATISTICS

144,013 annual flights

IATA World Air Transport Statistics 2015

Velocidad máxima: 913 km/h

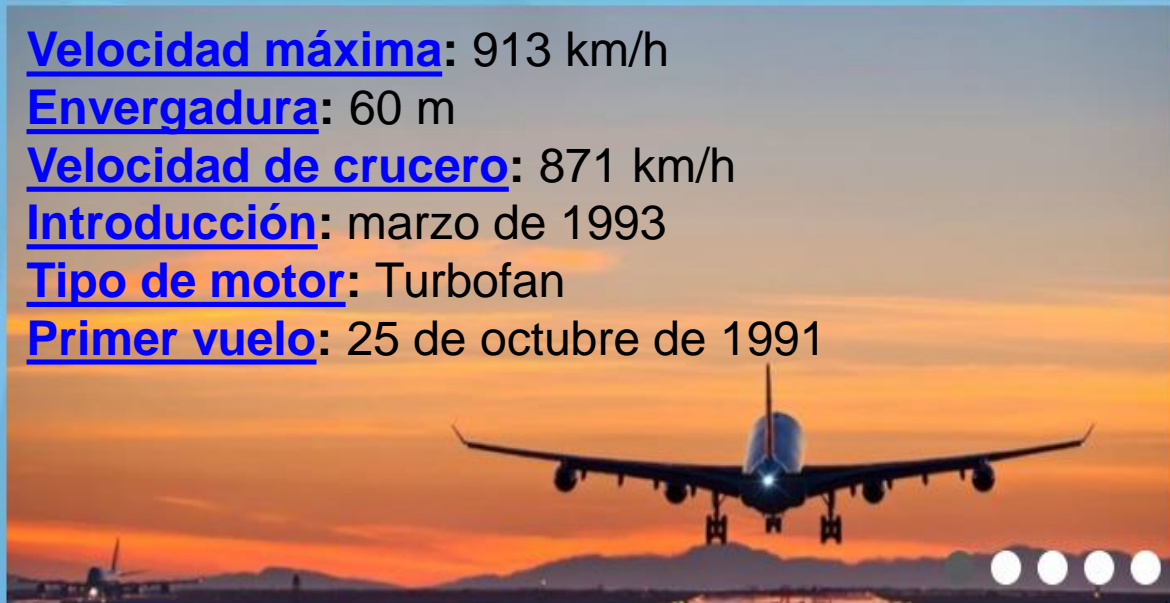
Envergadura: 60 m

Velocidad de crucero: 871 km/h

Introducción: marzo de 1993

Tipo de motor: Turbofan

Primer vuelo: 25 de octubre de 1991



What are the world's most popular wide body aircraft?

4

BOEING

747

STATISTICS

157,480 annual flights

IATA World Air Transport Statistics 2015

Velocidad máxima: 988 km/h

Envergadura: 60 m

Alcance: 9.800 km

Primer vuelo: 9 de febrero de 1969

Tipos de motores: Motor de reacción, Turbofan

Fabricantes: Boeing, Boeing Commercial

Airplanes



What are the world's most popular wide body aircraft?

3

BOEING

767

STATISTICS

435,865 annual flights

IATA World Air Transport Statistics 2015



Envergadura: 48 m

Velocidad de crucero: 851 km/h

Introducción: 8 de septiembre de 1982

Presupuesto unitario: 160.200.000–200.800.000 USD (2013)

Primer vuelo: 26 de septiembre de 1981

Tipo: Avión comercial de fuselaje ancho

What are the world's most popular wide body aircraft?

2

BOEING
777

STATISTICS
762,699 annual flights

IATA World Air Transport Statistics 2015



- [Velocidad máxima](#): 950 km/h
- [Envergadura](#): 61 m
- [Velocidad de crucero](#): 905 km/h
- [Tipo de motor](#): Turbofan
- [Primer vuelo](#): 12 de junio de 1994
- [Presupuesto unitario](#): 258.800.000–315.000.000 USD

What are the world's most popular wide body aircraft?

1

AIRBUS

A330

STATISTICS

836,763 annual flights

IATA World Air Transport Statistics 2015



Alcance: 13.450 km

Longitud: 64 m

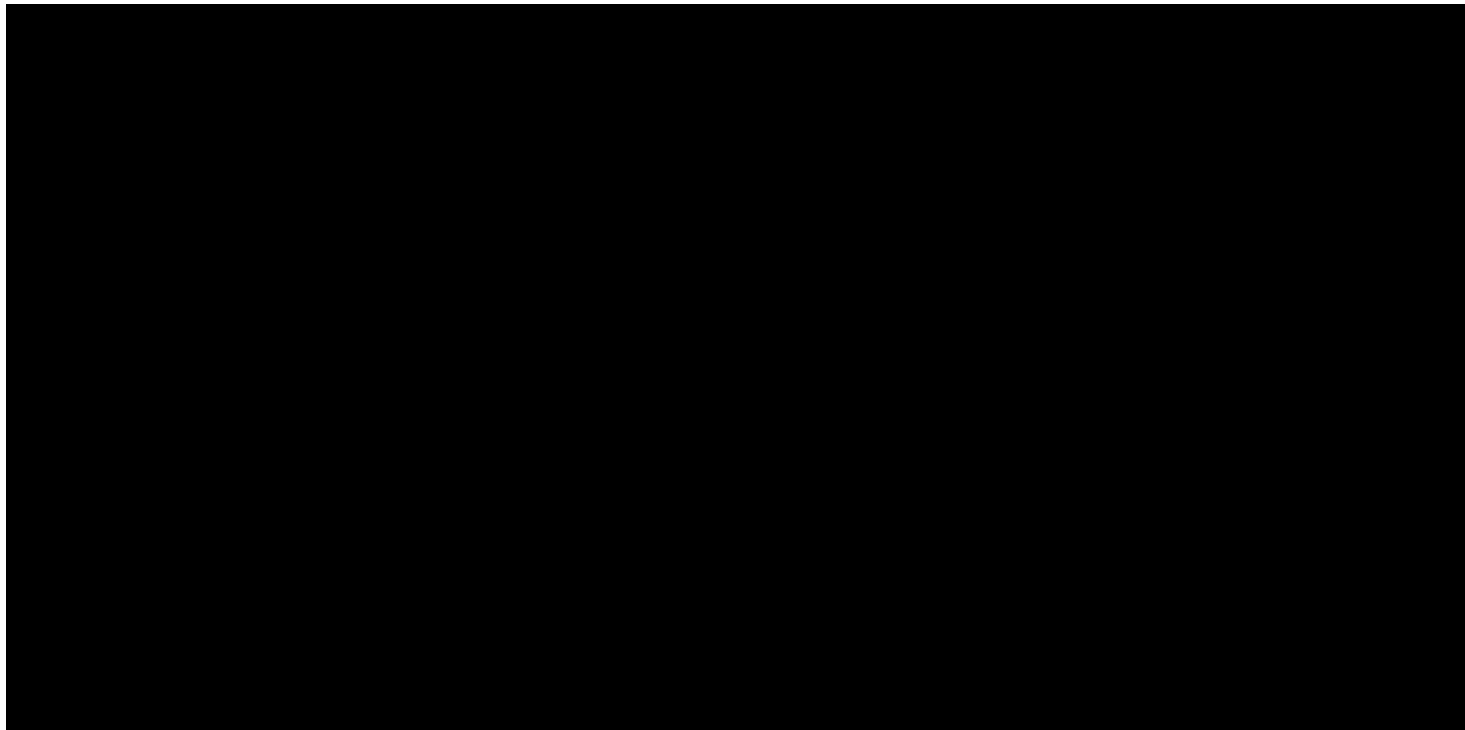
Velocidad máxima: 913 km/h

Envergadura: 60 m

Tipo de motor: Turbofan

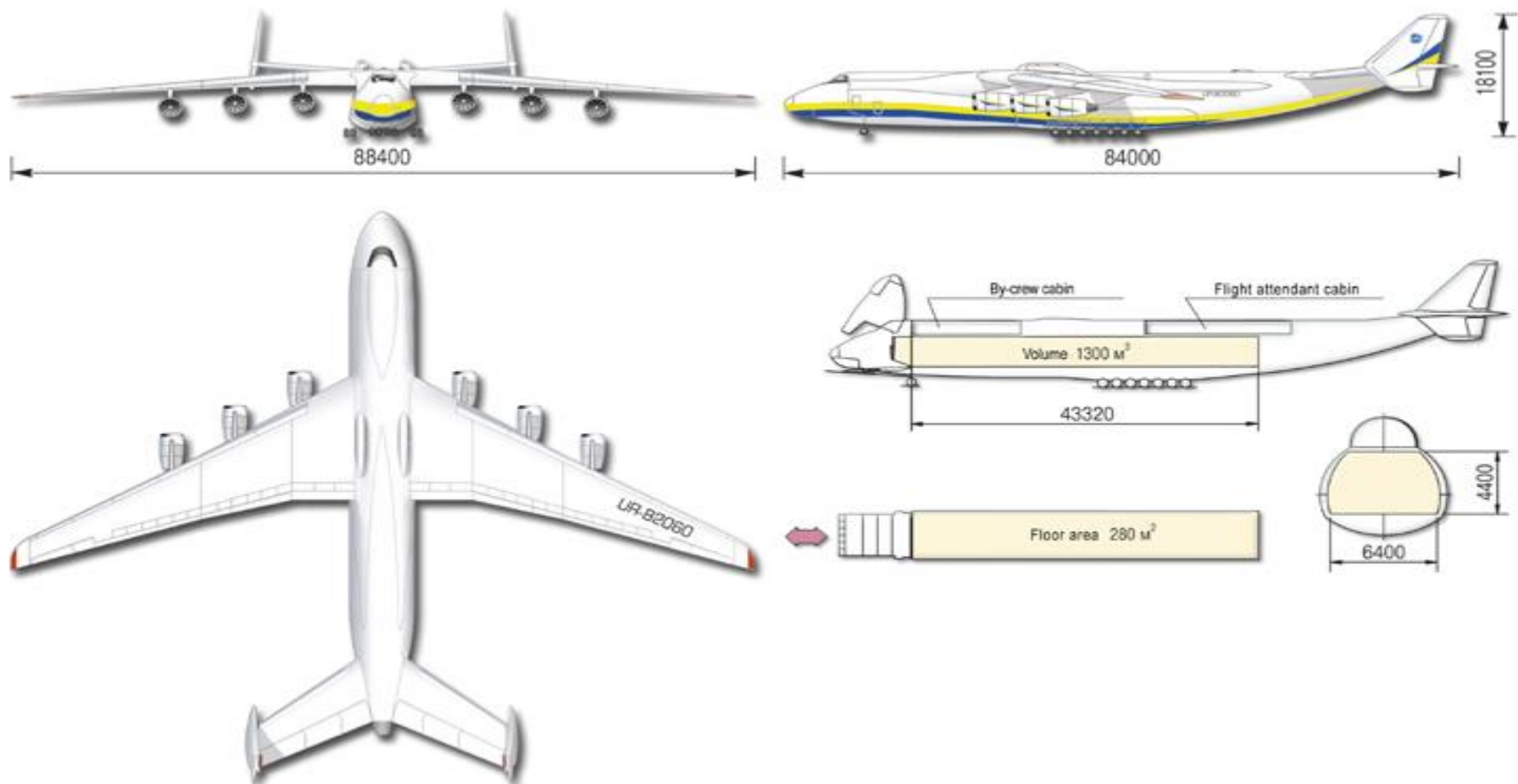
Primer vuelo: 2 de noviembre de 1992

Aircraft An-225 (2017)





<http://www.antonov.com/aircraft/transport-aircraft/an-225-mriya/an-225-mriya-photo>



<http://www.antonov.com/aircraft/transport-aircraft/an-225-mriya/projection>

AN-225 Performance

AN-225 Mriya Basic Performance	
Maximum payload, t	250
Cruising speed, km/h	up to 850
Cruising altitude, m	up to 12 000
Service range with a 200-ton cargo, km	4 000
Airfield length, m	3 000 - 3 500
Engines:	
-type	D-18T turbofan
-number x thrust, tf	6 x 23,4

<http://www.antonov.com/aircraft/transport-aircraft/an-225-mriya/an-225-performance>

Buque Oscar



© Gerd Frick
MarineTraffic.com

Lugar de la foto: Hamburg, Oevelgoenne // 53.540°, 9.901°

Fecha de la toma 2017-08-25 20:03

Tamaño original 3574 x 2383 pixels

Cámara y ajustes Model: E-M5 **Exposición:** 1/160, 3.5

ISO: 400, f.length:40mm

<https://www.marinetraffic.com/es/photos/of/ships/shipid:1914339/shipname:MSC%20OSCAR/#forward#5RfsAe8ZJ9gw5872.99>

IMO: 9703291

MMSI: 355906000

Identificativo de llamada: 3FBT7

Bandera: Panama [PA]

AIS Tipo de Buque: Cargo - Hazard A (Major)

Arqueo bruto: 192237

Peso muerto: 199273 t

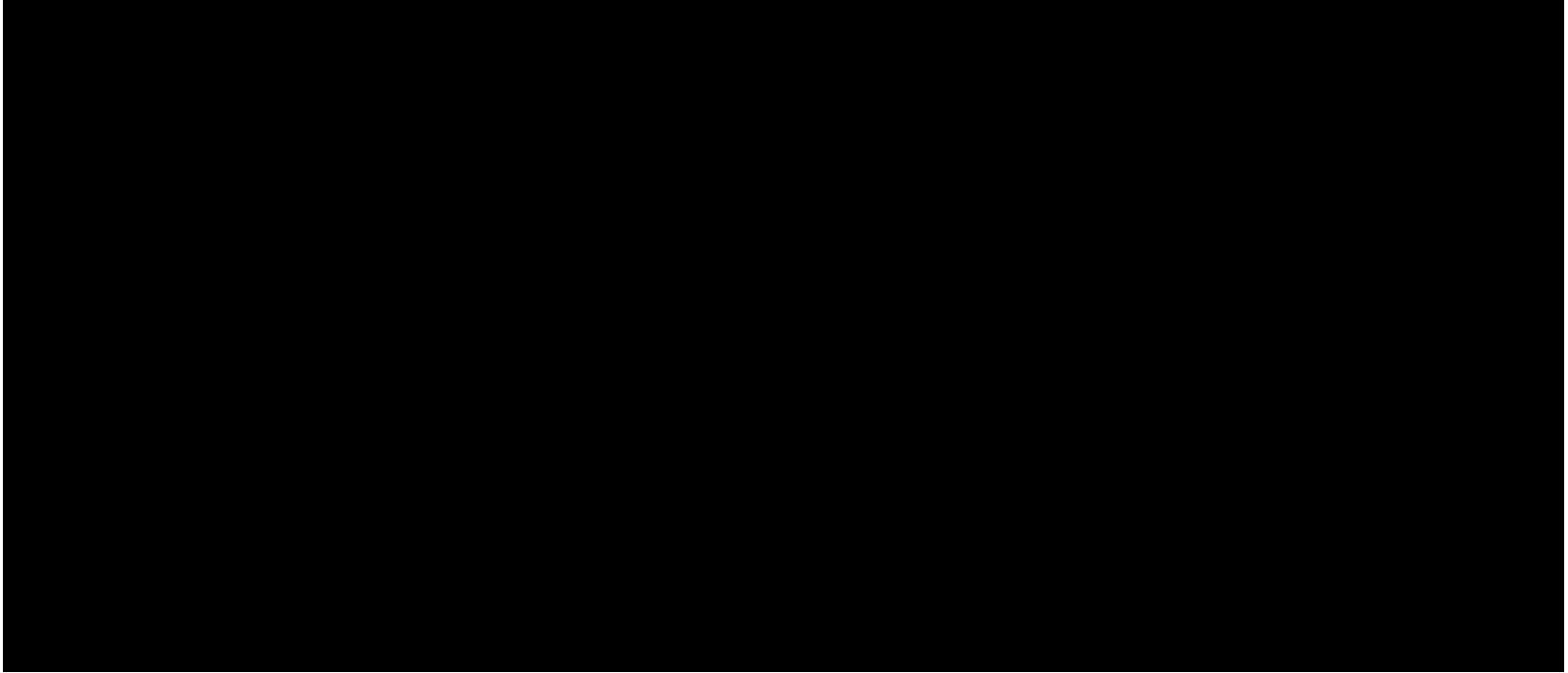
Eslora Total x Manga Máxima: 395.47m x 59.08m

Año de construcción: 2014

Estado: Activo

http://www.marinetraffic.com/en/ais/details/ships/shipid:1914339/mmsi:355906000/imc:9703291/vessel:MSC_OSCAR#D7WEBYo4v3Mf5Gmb.99

VIDEO BUQUE OSCAR



BUQUE THRIUMPH



IMO: **9769271**

MMSI: **538007360**

Identificativo de llamada: **V7FQ8**

Bandera: **Marshall Is [MH]**

AIS Tipo de Buque: **Cargo - Hazard A (Major)**

Arqueo bruto: **210678**

Peso muerto: **196878 t**

Eslora Total x Manga Máxima: **400m x 59m**

Año de construcción: **2017**

Estado: **Activo**

http://www.marinetraffic.com/en/ais/details/ships/shipid:4846812/mmsi:538007360/mo:9769271/vessel:MOL_TRIUMPH#pFW66qh9U4f42Bf.99

Lugar de la foto Rotterdam // 51.960°, 4.049°

Fecha de la toma 2017-05-20 18:52

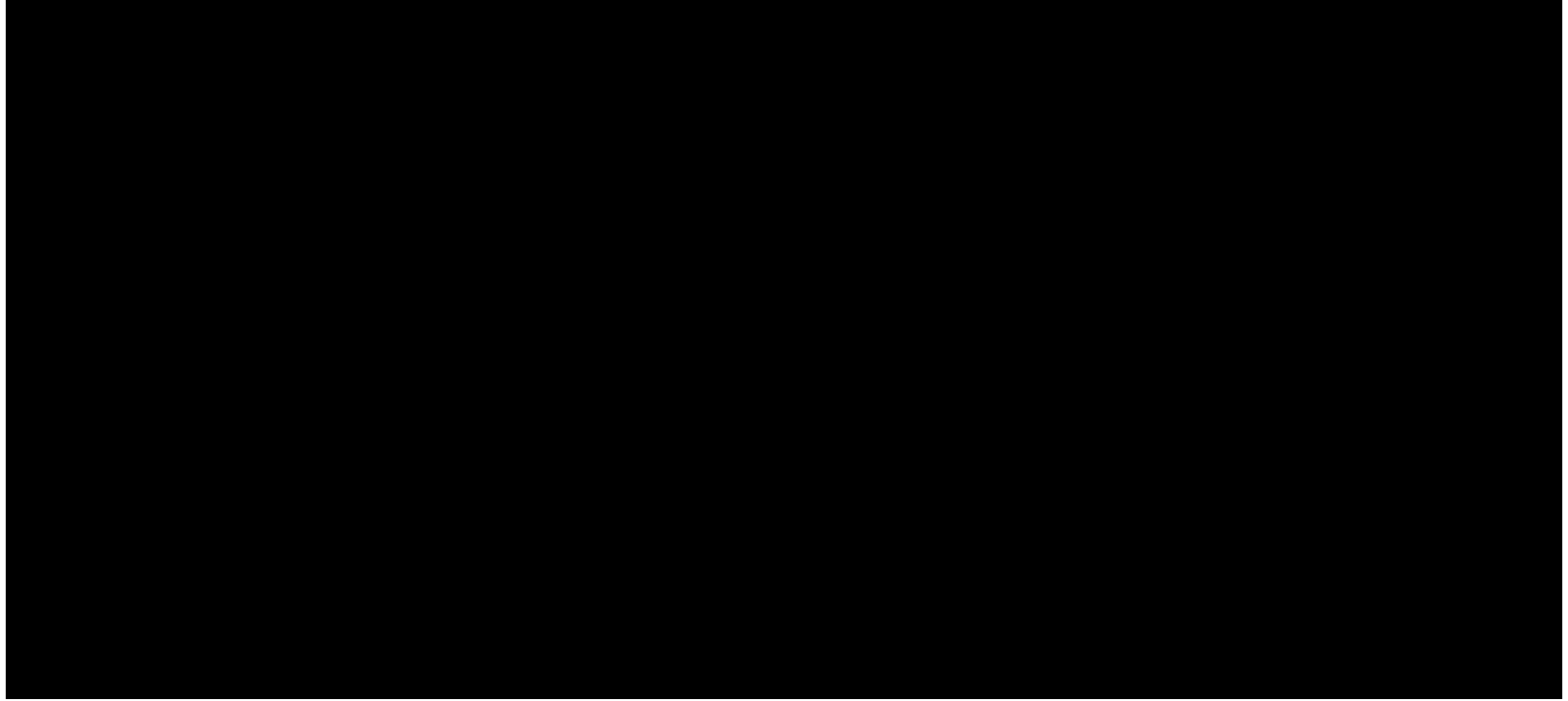
Tamaño original 1233 x 751 pixels

Cámara y ajustes Model: Exposición: , 0.0

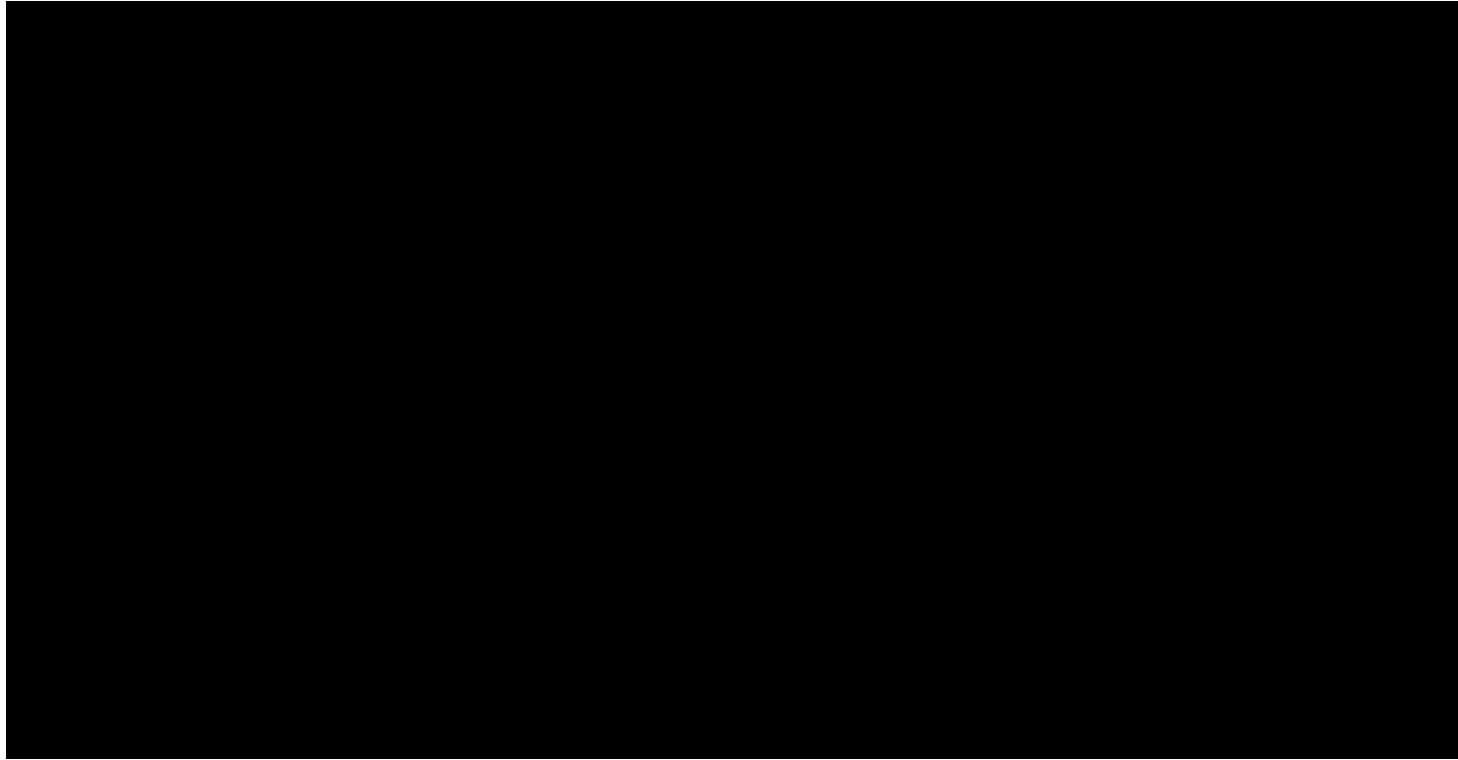
ISO: 0, f.length:0mm

<https://www.marinetraffic.com/es/photos/of/ships/shipid:4846812/shipname:MOL%20TRIUMPH/mmsi:538007360#laIm2ktaOGHfdQvt.99>

VIDEO TRIUMPH



TOP 10 CONTAINERS SHIPS



Estadísticas

SUMMARY OF PASSENGER AND FREIGHT TRAFFIC

Passenger and freight traffic



LOAD FACTOR

80.4%

Revenue Passenger-Kilometers (millions):
7,164,304

Available Seat-Kilometers (millions):
8,906,449



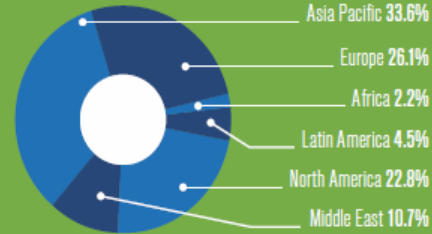
LOAD FACTOR

46.9%

Freight and Mail Tonne-Kilometers (millions):
224,105

Available Freight Tonne Kilometers (millions):
477,514

World scheduled passenger and freight traffic by region of airline domicile – Revenue Tonne-Kilometres (millions)



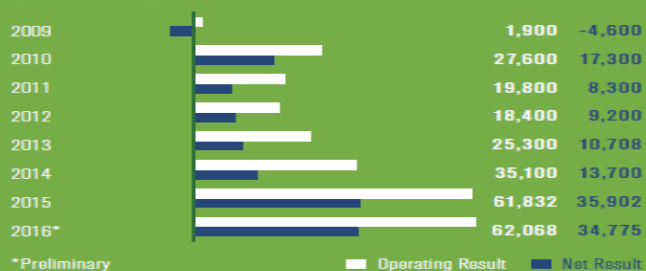
Share of Revenue Passenger- Kilometres by Airline Type



- IATA data: infographics wats 2017.



OPERATING AND NET RESULTS (US\$ millions)



TOP AIRLINES BY RPK AND FTK

Top 10 Passenger (RPK)

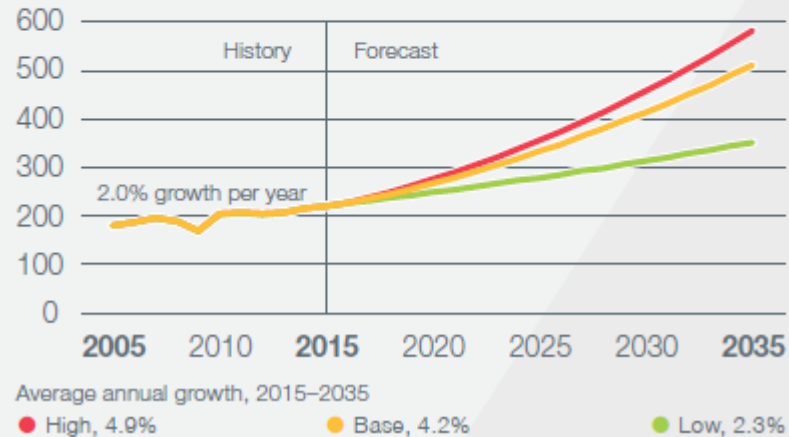
American Airlines	320,044
Delta Air Lines	308,088
United Airlines	299,080
Emirates	270,797
China Southern Airlines*	205,720
Southwest Airlines*	200,848
Lufthansa*	149,702
British Airways*	144,028
Ryanair*	142,740
China Eastern Airlines*	138,042

Top 10 Cargo (FTK)

Federal Express	15,712
Emirates	12,270
United Parcel Service	11,264
Cathay Pacific Airways	9,947
Qatar Airways	9,221
Korean Air	7,666
Lufthansa*	7,384
Cargolux	6,878
Singapore Airlines	6,345
Air China	6,089

World air cargo traffic will more than double over the next 20 years

RTKs
in billions



Historical and forecast air cargo growth rates

Region	History 2005–2015 by percentage	Forecast 2015–2035 by percentage
World	2.0	4.2
Asia–North America	1.9	4.6
Europe–Asia	2.1	4.6
Intra–Asia	2.1	5.5
Europe–North America	0.4	2.4
Intra–North America	–1.4	2.2
Domestic China	7.6	6.2
Latin America–Europe	3.3	3.8
Latin America–North America	0.7	4.3
Africa–Europe	0.4	3.8
South Asia–Europe	3.5	5.0
Middle East–Europe	3.6	3.9
Intra–Europe	1.6	2.2

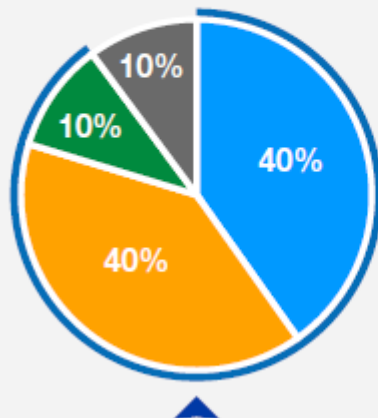
<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

Importance of freighters in the air cargo industry

Freighters are critical to compete in air cargo markets

Source:
Flight Global, U.S. DOT F41,
airline reports, and
Boeing estimates (2015 data)

Airlines operating freighters generate 90% of industry revenues

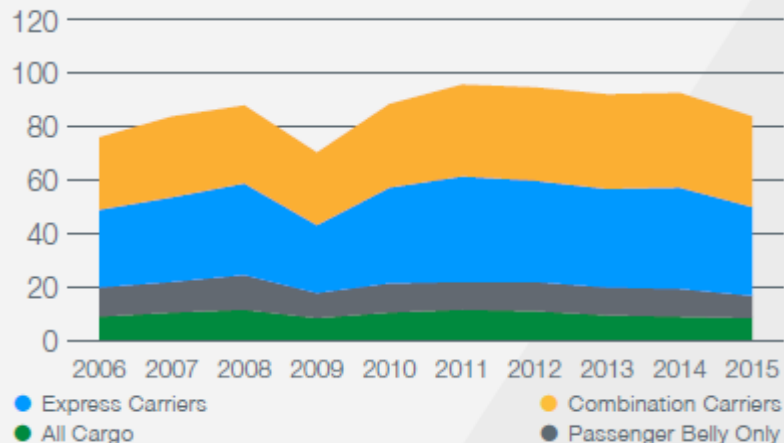


Airlines operating freighters

Express and combination carriers consistently generate the majority of world air cargo revenue

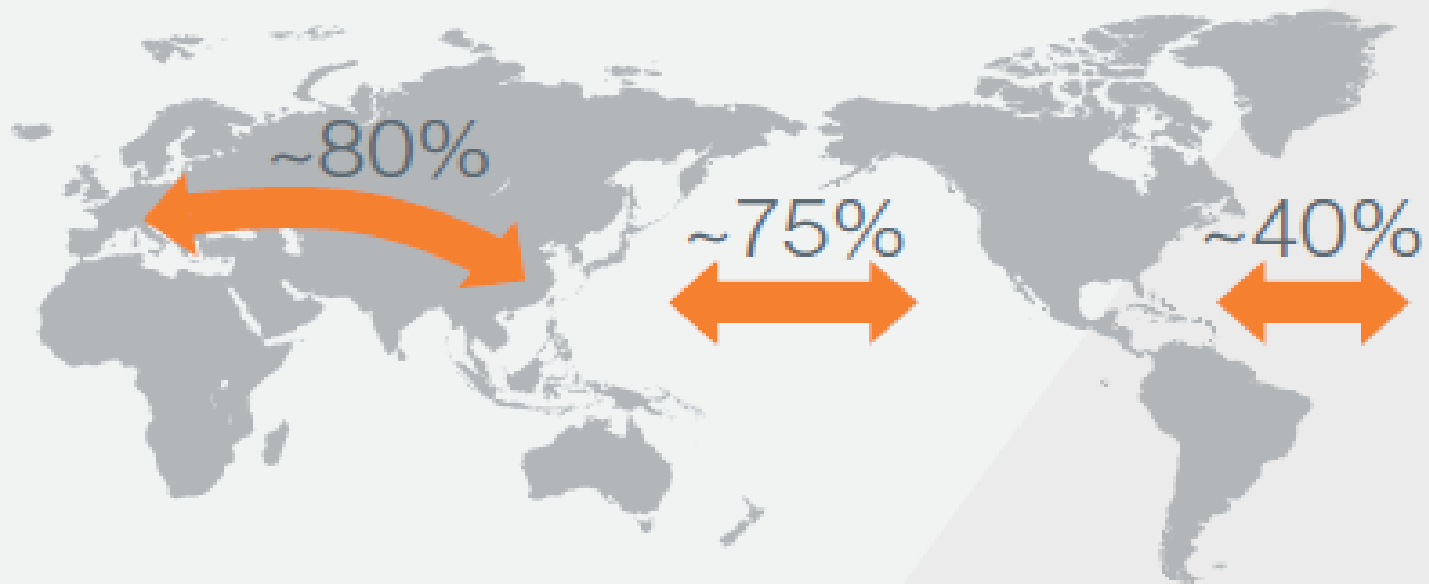
Air cargo revenue, USD billions

Source:
Flight Global, U.S. DOT F41,
airline reports, and Boeing estimates



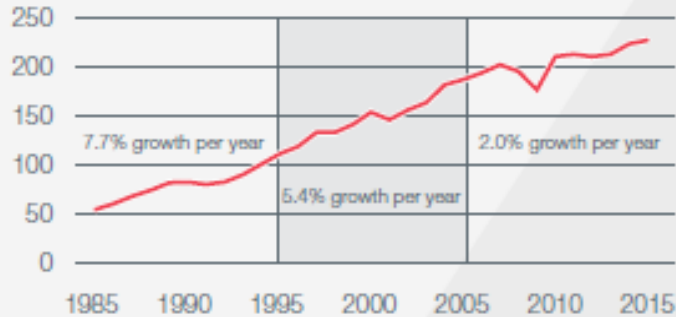
Freighters play a key role in major east-west markets

Total air cargo traffic carried by freighters
by percentage



World air cargo traffic has slowed over the past decade

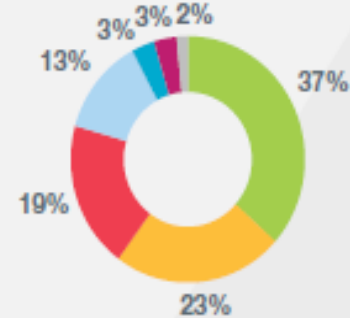
RTKs
in billions



2015 air cargo market share by airline domicile

- Asia*
- North America
- Europe
- Middle East
- CIS
- Latin America
- Africa

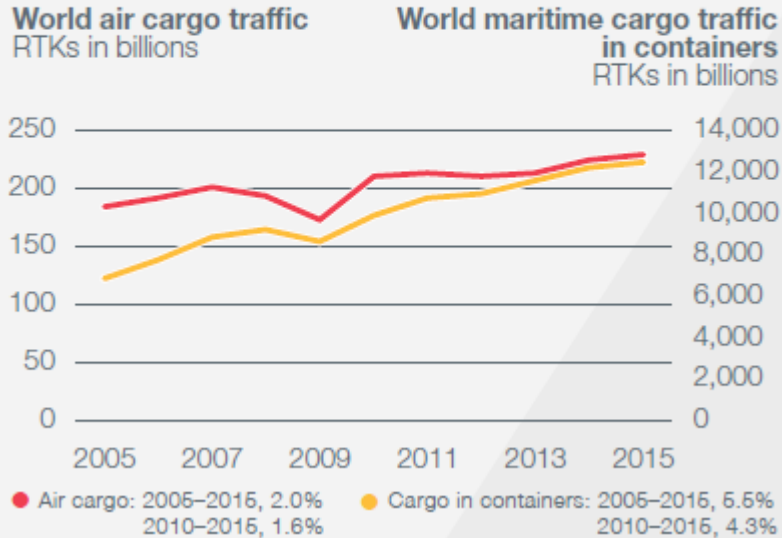
223.4 billion RTKs



* Includes South Asia and Oceania.

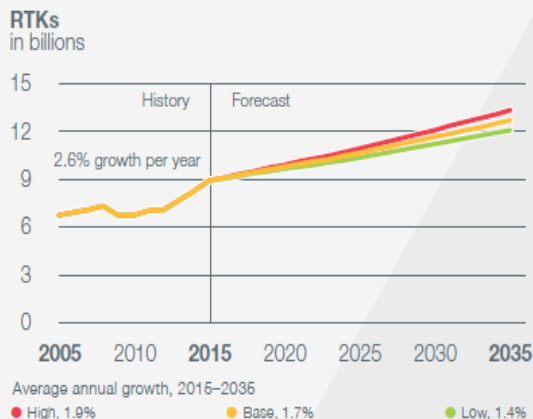
<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

Both air cargo and containership transport
have slowed over the past decade

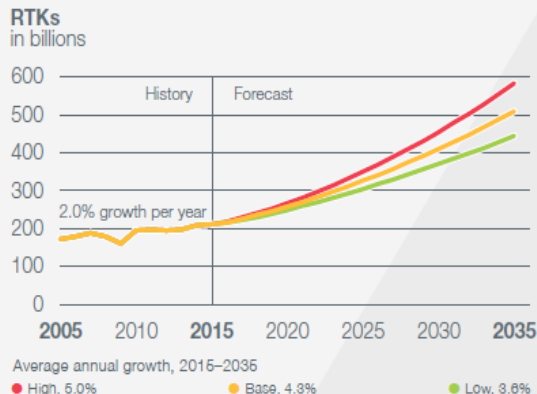


<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

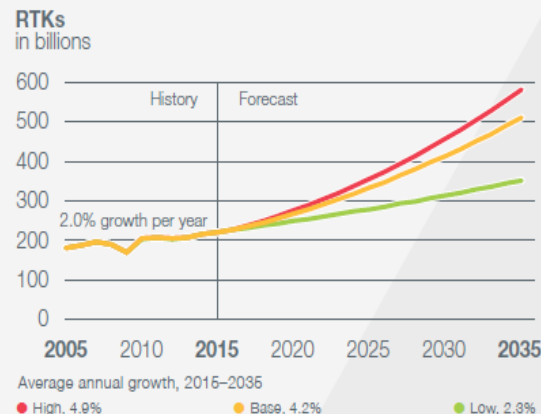
World airmail will grow 1.7% per year through 2035



World air freight will grow 4.3% per year through 2035

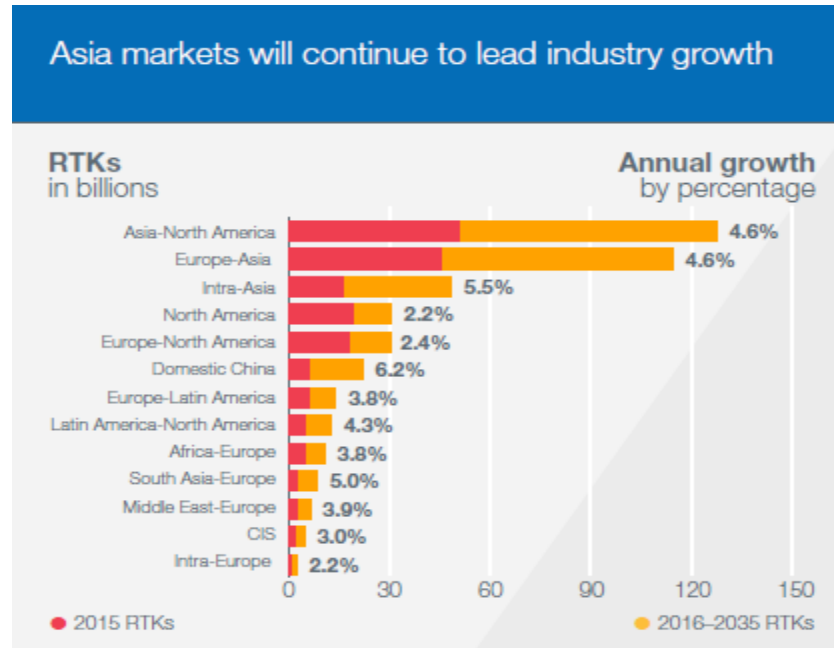


World air cargo (freight and mail) will grow 4.2% per year through 2035



<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

Regional air cargo markets

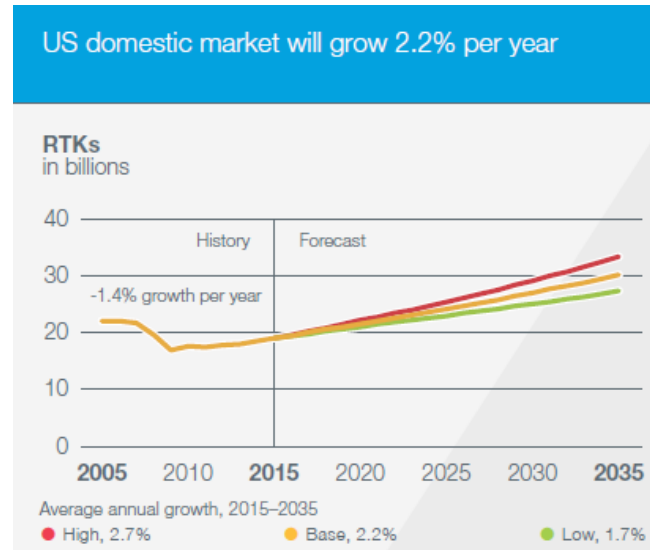
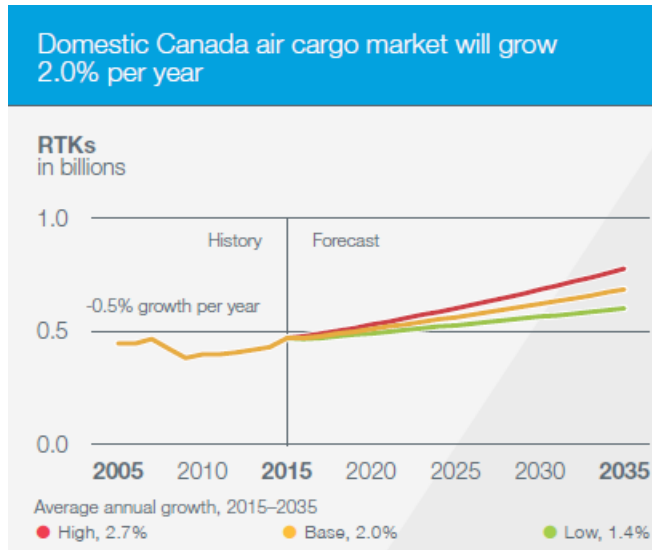


<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

Regional Markets North America

Air cargo traffic grew in 2015

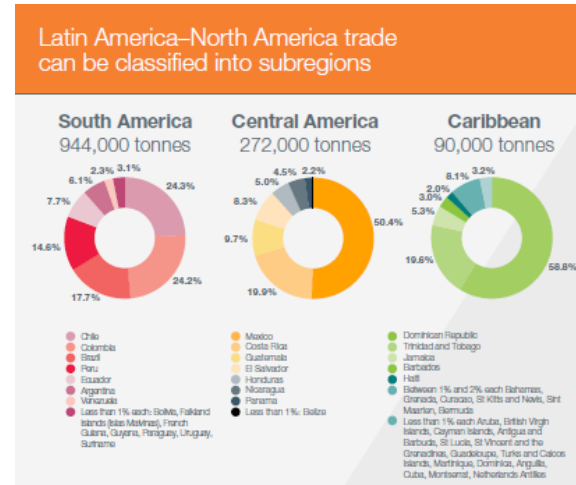
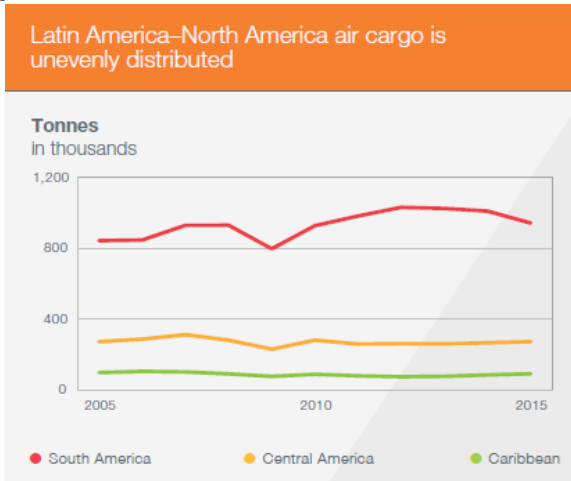
Air cargo moving to, from, and within the United States and Canada accounts for 8.8 percent of the world's air cargo traffic in terms of tonne-kilometers and 13.8 percent in terms of tonnage alone.



<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

Regional Markets Latin América and North América

For the purposes of this forecast, we define Latin America as South America; Central America, including Mexico; and the Caribbean Basin. We define North America as the United States and Canada.



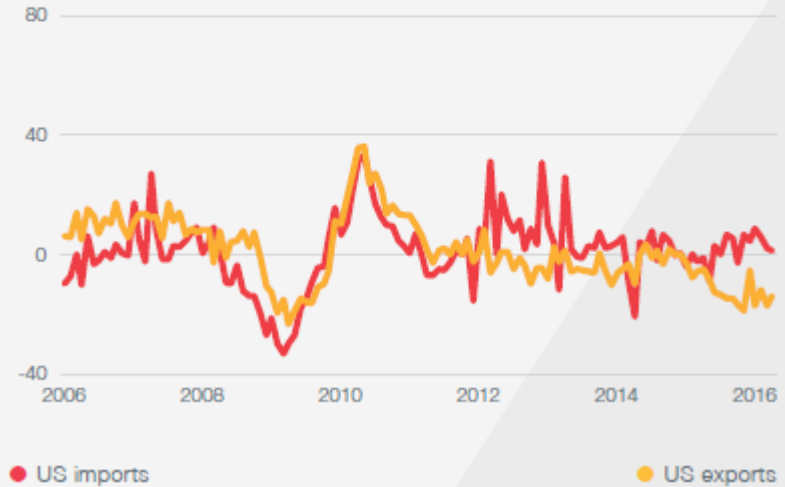
<http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/cargo-market-detail-wacf/download-report/assets/pdfs/wacf.pdf>

Latin America –US air cargo market

The United States is Latin America's major North American trading partner, accounting for 94 percent of Latin America's imports from North America and 90 percent of its exports to North America. Monthly Latin America–US trade, therefore, serves as a good approximation of month-to-month activity in the Latin America–North America air cargo market.

US to Latin America exports have declined in recent years

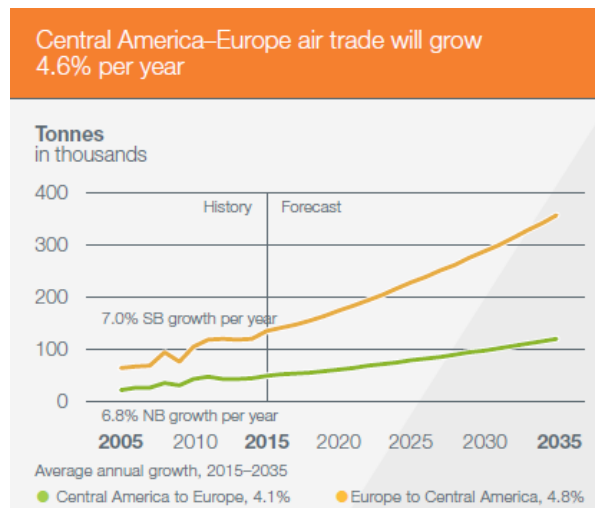
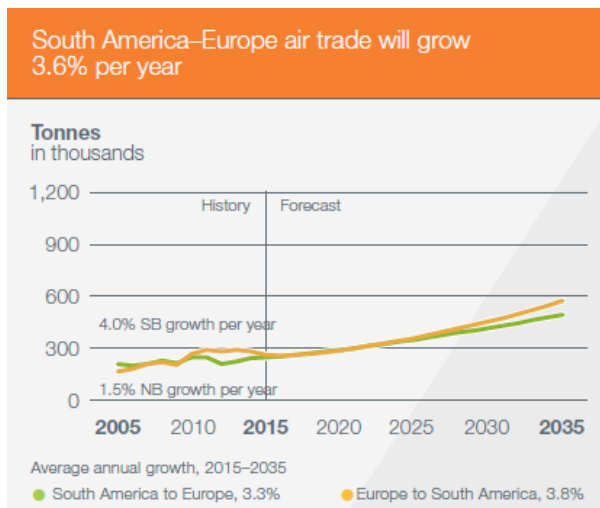
Monthly change in air cargo tonnage year over year



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Latin America–Europe air cargo market forecast

After growing at an annual rate of 3.3 percent over the past 10 years, the Latin America–Europe air cargo market is projected to grow at 3.8 percent per year from 2015 through 2035.

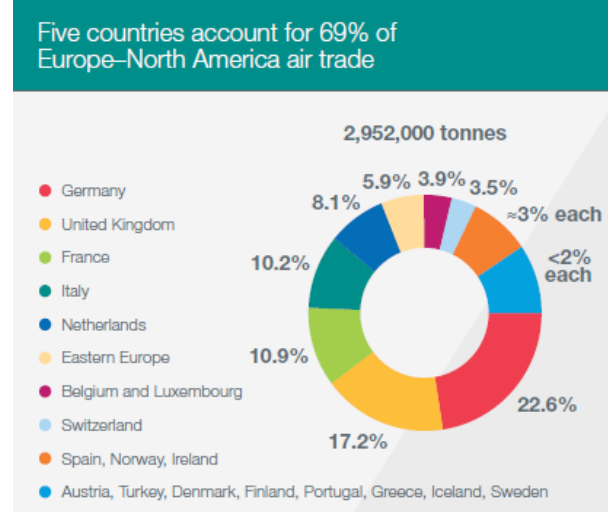


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Regional Markets

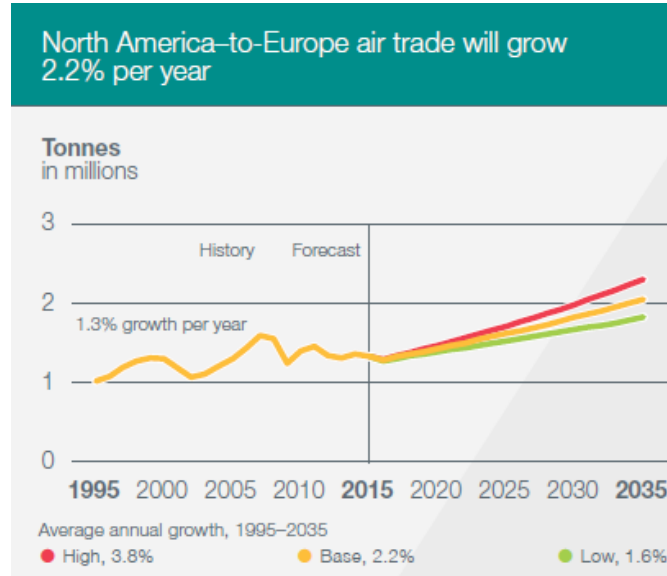
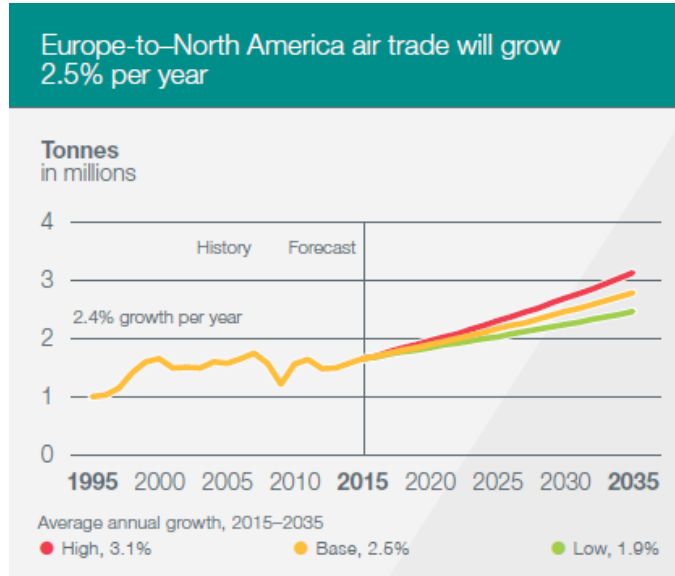
Europe and North America

For the purposes of this forecast, we define Europe as all 28 member countries of the European Union (EU) plus Switzerland, Norway, Iceland, Turkey, Albania, Gibraltar, and all the countries of the former Yugoslavia. We define North America as Canada and the United States.



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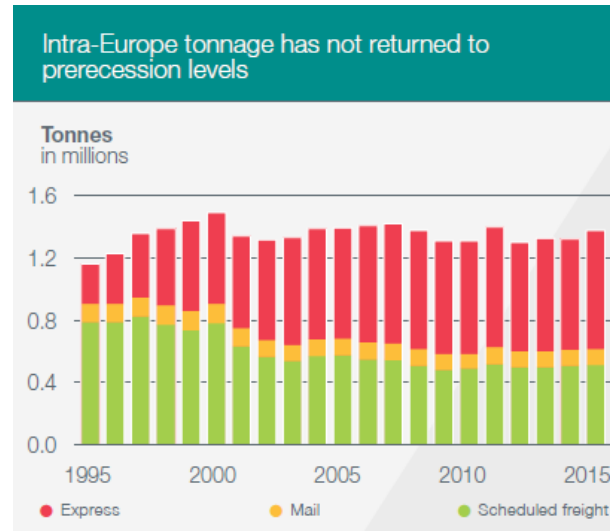
Europe and North America



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Regional Markets Intra - Europe

The intra-Europe air cargo market comprises approximately 3.1 percent of the world's air cargo tonnage, but because the region is geographically compact, only 0.8 percent of the world's tonne-kilometers.

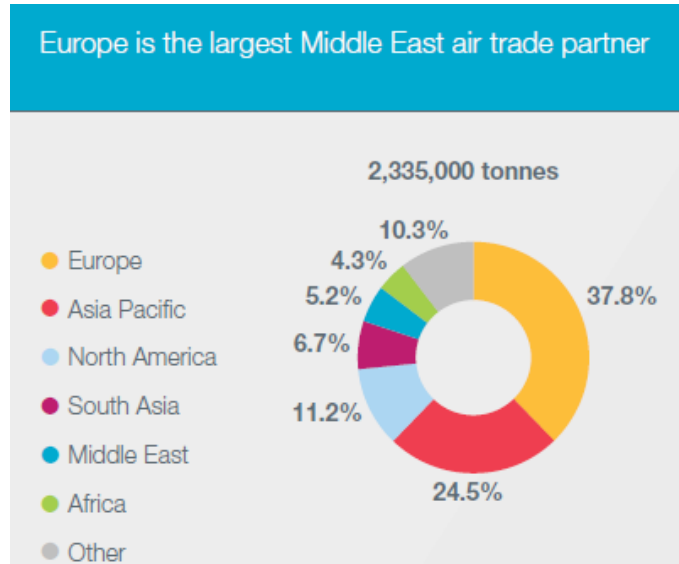


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Regional Markets

Middle East

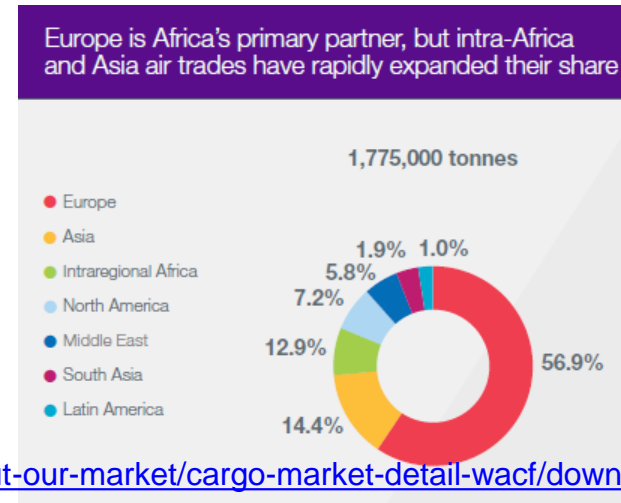
For the purposes of this forecast, we define the Middle East as Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates, and Yemen.



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Regional Markets Africa

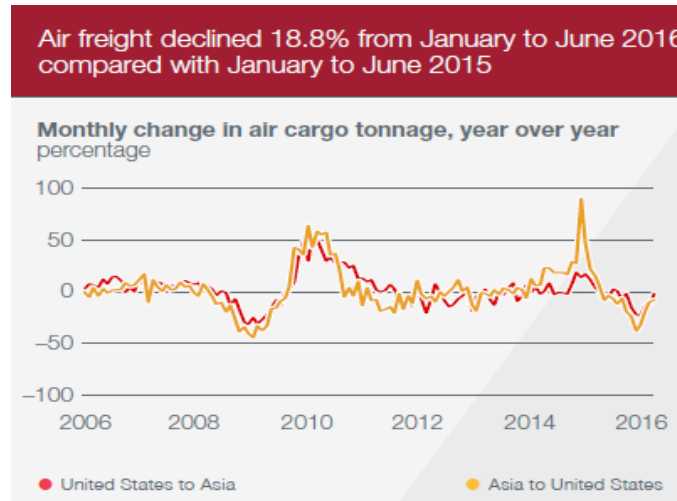
For the purposes of this forecast, we define Africa as the entire continent of Africa plus the nations of Cape Verde, Madagascar, Reunion, the Seychelles, Mayotte, Mauritius, the Comoros Islands, and São Tomé and Príncipe. Data from ACI, IATA, ICAO, governments and airport authorities, the United Nations, and the US Department of Commerce were used to model air cargo flows associated with Africa



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Asia and North America

For the purposes of this forecast, we define Asia as Australia, Cambodia, China, Hong Kong, Indonesia, Japan, Macau, Malaysia, New Zealand, the Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam, and. We define North America as Canada and the United States.

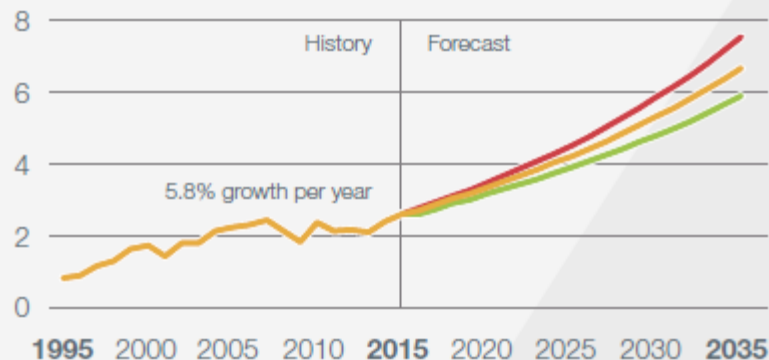


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Asia–North America air cargo traffic forecast

Asia-to-North America air trade will grow 4.7% per year

Tonnes
in millions



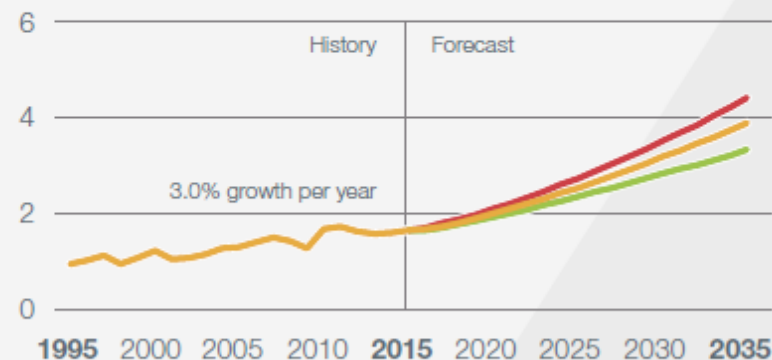
● High, 5.4%

● Base, 4.7%

● Low, 4.1%

North America-to-Asia air trade will grow 4.5% per year

Tonnes
in millions



● High, 5.1%

● Base, 4.5%

● Low, 3.6%

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Regional Markets

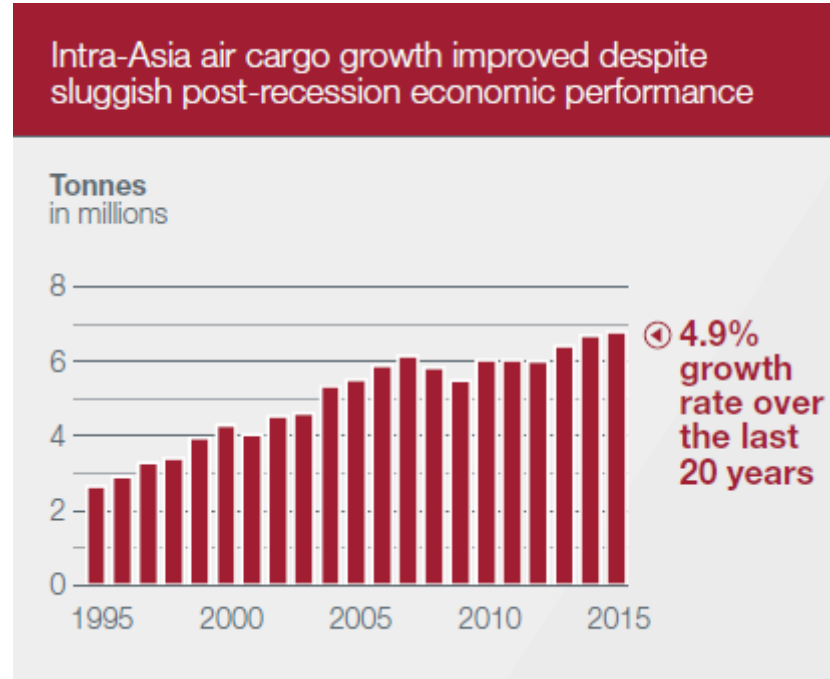
Europe and Asia

For the purposes of this forecast, we define Europe as all 27 member countries of the European Union plus Switzerland, Norway, Iceland, Turkey, Albania, Gibraltar, and all the countries of the former Yugoslavia. Asia is defined as Japan, China, Hong Kong, Taiwan, South Korea, Singapore, the Philippines, Indonesia, Malaysia, Thailand, Vietnam, Macau, Cambodia, New Zealand, and Australia.



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Regional Market Intro - Asia



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CEPAL

